

CALL OF THE LAND

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To

THE TOILING MILLIONS OF INDIA

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CHAPTER I

RURAL UPLIFT

"AGRICULTURE is the back-bone of India." . . . is a truism, become trite by reiteration. The overwhelming preponderance of agriculture over all other occupations in India is a glaring phenomenon. The percentage of our population dependent on agriculture for their living, in some form or other, has been variously estimated at 65 to 85%. Co-existent with, and arising in fact directly out of this, is the other striking fact that the peasantry of India is one of the poorest in the world, and the crop yields almost the lowest. The significance of the above two factors and their repercussion on the national well-being was never realised in full till only recently. Figures are often more eloquent than words and the reader will, it is hoped, bear with them for a while, if they are allowed to tell their own tale.

The total income of British India from all sources in 1931-32 was estimated at Rs. 1,766 crores of which Rs. 1,167 crores was derived from agriculture. The annual income *per capita* for

the same year in different countries was estimated as follows :

United States	..	..	..	Rs. 1406
Canada	..	..	..	1028
Great Britain	..	..	..	980
Australia	..	..	..	792
France	..	..	..	621
Germany	..	..	..	602
Japan	..	..	..	218
India	..	..	..	65

Judging by another standard, crop yields we arrive at the same result. This will appear from the average yields of the main Indian crop as compared with those of other countries.¹

(lb per acre.)						
Wheat.		Rice	Maize	Sugarcane	Cotton.	Tobacco
Egypt	1,918	2,998	1,891	70,302	535	
Germany	2,017		2,828			2,127
Italy	1,383	4,568	2,079		170	1,139
Japan	1,713	3,444	1,392	47,534	196	1,665
U.S.A.	812	2,185	1,579	43,270	268	882
China	989	2,433	1,284		204	1,288
India	660	1,240	803	34,944	89	987

The all-India average for the five years 1938-59 to 1942-43 in terms of cleaned rice was 738 lb. and in terms of paddy 1109 lb. per acre.²

The net value of the output of a farm of

¹ Statistical year book of the League of Nations, 1930-34. Table 19-47.^b

² Technological possibilities of Agricultural Development in India. (W. Burns) p. 51.

twenty acres in Holland is estimated at £260 per acre and in Rumania, one of the poorest countries of Europe, at £140, whereas in India it is a bare Rs. 40/- per acre (pre-war prices).

The inevitable result is that India, a preponderantly agricultural country, rich in natural resources, does not produce even enough to feed her own population. The following figures submitted by Sir P. M. Khareghat (the then Vice-Chairman of the Imperial Council of Agricultural Research in India) and Dr. W. R.

EXISTING & DESIRABLE CONSUMPTION

	Ounces per day per adult (or consumption unit)		Total quantities in Million tons.	
	Reqd. for a balanced diet	Available.	Required.	Available.
Cereals	16	19.5	48.0	55.5
Pulses	3	2.5	9.0	7.5
Sugar	2	1.8	6.0	5.3
Vegetables	6	3.0	18.0	9.0
Fruits	2	2.0	6.0	6.0
Fats & Oils	1.5	0.6	4.5	1.9
Whole milk *	8	1.5	32.0	3.3
	(per capita)			
Butter milk	...	3.0		12.5
Meat, Fish & Eggs	2-3	0.5	6.0 to 9.	2.5

* The figures for available milk are based on existing information about the uses to which the milk supply is put. All the figures in the table should be regarded as illustrative rather than absolute. The table shows in a general way the existing trend of consumption and how this needs modification.

Aykroyd (Director of the Coonoor Nutrition Research Laboratory) to The United Nations' Conference on Food and Agriculture at Hot-springs, Virginia, U. S. A., in 1943, show the nutrition level at which India's millions are living at present.

The requirement of milk has been estimated in other ways by different authorities. It should be remembered, however, that the actual quantities available vary between wide limits in the different regions and between different classes in India. The poorest, who have to do the hardest manual labour, often get much below even the minimum shown above. It should be also noted that only about 27% of the milk products is estimated to be consumed as whole milk, the most easily assimilable form. As a rough idea of the production requirements of India it has been calculated by experts that after allowing for loss in transport, other forms of wastage and taking everything else into consideration, the following all-India increases or existing productions are the minimum required :

Cereals 10%, Pulses 20%, Fruits 50%, Vegetables 100%, Fats and Oils 25%, Milk 300%, and Fish and Eggs 300%¹.

¹ Memorandum on Agricultural Development in India; Imperial Council of Agricultural Research p. 2.

To these must be added sufficient supplies of cattle food for the ill nourished animal population and a margin of exportable surplus to pay for the imported machinery which will be undoubtedly required in the immediate future for increased industrialisation, which is essential for establishing equilibrium between Agriculture and Industry. It is unfortunate that the ingredients in which Indian dietary is most deficient are the very ones most in demand by the child and the adolescent during their growing stage, a factor which leaves its impress on them throughout their later life.

Effects of malnutrition are reflected in the mortality and morbidity figures as well as in the state of public health as revealed in the following death-rate per annum.* Infantile mortality of 162 per thousand live births, an average annual mortality of 145 thousand from cholera, of 70 thousand from small-pox, of 31 thousand from plague, of 29 thousand from dysentery and diarrhoea, of 50 thousand from tuberculosis, and the most appalling, of 3,667,00 from fevers. The average recorded death-rate was 22 per thousand. Although not all of these are due

* P. 52. Second Report on Reconstruction Planning. Reconstruction Committee of Council.

directly to malnutrition, it has undoubtedly by a most important significance.

This state of affairs has not been brought about in a single day nor resulted from a single cause. It is the accumulated result of various causes and may be ascribed to neglect and indifference to agriculture for generations. Famine and chronic starvation are not new phenomena in India. The following table gives the number of famines and estimated mortality from the same during the last century.*

Period	Number of famines	Estimated mortality.
1800-1825	5	1 million
1825-1850	2	.4 ..
1850-1875	6	5 ..
1875-1900	18	26 ..
Total	31	32.4 millions

Early in the present century there was another severe famine affecting a large area from Bombay to the Punjab, the cost of the relief being estimated at Rs. 15 crores and the death due directly to the famine and to incidental diseases at a million. Although there was no recurrence till the Bengal famine of 1943, there has been local shortages in some places or other almost every year causing acute distress.

All schemes of post-war development, industrial, agricultural, educational, or social, must be

* The Indian Rural Problem: Sir M. B. Nanavati. (p. 13).

considered and examined against the above inescapable background.

Living on the verge of chronic famines and starvation; the urban population never seriously pondered over the question of the source of their food supply and its ultimate cost. The present food shortage and the recent Bengal Famine have however hit every one on the face like a blizzard, sparing neither high nor low, Hindu or Muslim, European or Indian, the city epicurean or the village rustic. They have disclosed, as nothing else would, the close dependence of all on the poor peasant, living far away from the town, whom the sophisticated urbanite has never seen. They have been forced to realise that their lives cannot be divorced from the village which ultimately provides nourishment for all; what hits the village, hits them all. The food problem is, therefore, now looming large in all schemes and planning, sponsored by the official or the non-official. We are constantly hearing of Rural Uplift, Village Reconstruction, and the Rural Problem. New Departments of Government are constantly springing up to discover new solutions and prepare new schemes. One hopes that the interest is not just a passing phase—the latest hobby—but has come to stay and the urban population, the Government as well as the intelligensia, will not sink back to snug complacency,

once the present crisis passes by. The Famine and the suffering of the millions will not then have been all in vain. Or, the next crisis will come as a cyclone—without warning, uprooting all moorings and carrying everything before it, beyond the possibility of repair.

The situation, staggering as it is, might make the boldest pause and despair, as before a baffling problem. The population is multiplying every decade by several millions, the land has reached, by constant cultivation, the level of minimum fertility in most parts of the country. The peasantry, a huge downtrodden, poverty-stricken mass, is apathetic and difficult to move. The Government, with the best of intentions, has tried various schemes for nearly half a century, set up Nation-building Departments in many spheres, importing highly trained and highly paid experts from abroad. It has even transferred these departments under popular control. What more could it do?

Why have not all these efforts removed poverty; why, instead, food and cloth famine still stalk the land? What is possible when the whole world is in welter, and India herself in the grip of a devastating War? She must wait for normal times for a fresh start, when new schemes can be framed. This might be the attitude of

the average man, and perhaps not very unreasonably.

Let us, however, look elsewhere. Let us consider what people, placed in similar circumstances in other parts of the world, are doing. The population of Europe, excluding Russia, is about 350 millions, about half of which consist of peasants and their dependants. The bulk of the peasantry were, until recently, almost as ignorant as in India. No one however heard of starvation in these lands, before the war. Great Britain, U.S.A. and Russia are all engaged in a life and death struggle. But there is no mention of death in any of these countries from such a cause. The possibility of food shortage in Great Britain during a War was envisaged and a complete rationing scheme kept ready, fully three years before its actual outbreak. The whole of Continental Europe has been devastated by the war; many have been rendered homeless and the food problem is almost as acute as in India. But there is no complacency and the gravity of the situation is fully realised. The United Nations' Food Conference has deliberated on the situation. The best brains of the Allied Nations are already working out practical schemes and devising new methods, so that combined action can be taken immediately with the cessation of hostilities in

any particular area. Addressing the members of the Food Conference, the late President Roosevelt stated—"You have surveyed with courage and realism the magnitude of these problems and have reached unanimous agreement that they can and must and will be solved." These were not mere empty words but will undoubtedly be implemented. But whoever in authority has told India's millions that food *must* be found for them all? The average man in India has only a vague notion of the real nature of the problem, and knows still less of the steps proposed by the Government for its solution. The scheme of the Imperial Council of Agricultural Research, the only Government plan which has so far seen the light of the day, has received little notice. The "Grow-More-Food Campaign," which has received a wider publicity is a temporary measure and touches merely the fringe of the problem. The emphasis on manures and on irrigation are all to the good. But it has hardly led to any appreciable increase in productivity or in extension of the cultivated area, and has succeeded at best in replacing some cash with food crops.

The problem must be faced boldly and solved, whatever the cost, or India has no future. It is not enough to lay the whole blame on over-population, serious as it is. Sir P. M. Khareghat,

Joint Secretary of the Education, Land and Health Departments, Government of India, who can by no means be dubbed a visionary, has publicly stated that the food production in India can be doubled within the next fifteen years, *provided certain conditions are fulfilled*. The present agricultural state of India is not a direct result of the war alone which has only brought the festering sore to the surface ; it cannot await solution till the war ends, but must be tackled here and now. The figures quoted before amply demonstrate that this has been the normal lot of the Indian peasantry for a considerable period ; the present crisis has only brought their full significance into prominence, and may thus yet prove a blessing in disguise. The Government, both Central and Provincial, are now busy preparing various post-war development schemes and would no doubt take stock of the situation past and present—according to their own light. The Secretariat in India with which most decisions ultimately lie, is, however, a ponderous machine. It moves slow, and from precedent to precedent. It is apt to be helpless in a really unprecedented situation and by the time it makes up its mind its decision is frequently out of date. It is, therefore, the duty of the common man to wake up and examine for himself

the causes which have led to the present situation as well as the schemes and plans which are being prepared for his benefit.

As a result of the recommendations of various conferences, committees (most of which sprang into activity as a result of one famine or another) and exchange of numerous despatches extending over nearly half a century—the Departments of Agriculture in India in their present form, both in the centre and in the provinces, came into existence over forty years ago. Various other nation-building departments, Co-operative, Industries, and Public Health also came subsequently into existence and were hailed with delight and enthusiasm as harbingers of a new order of things. The Agricultural Departments have carried out numerous experiments and research in well equipped laboratories and experimental stations throughout India and have achieved valuable results at considerable cost and trouble. Demonstrations to carry the results home to the cultivators by field demonstrations and propaganda were also started a few years later. Without agreeing with the cynics who see nothing good in any of these movements, it will have to be conceded that the results have not been generally commensurate with the efforts or the expenditure. Sir John Russel, Director of The Rothamstead

Station, in P. 68 of his report on "Applying Science to Crop Production in India", published in 1937 stated :—"The new selections and varieties which represent the achievements of Indian Agricultural Science are only used to a very limited extent. The ryots continue largely un-affected by the enormous efforts made on his behalf. In India the stage has been reached where the machinery for gaining more knowledge is working better than the machinery for utilising it". He recommended that the most efficient methods of propaganda should be enquired into and more extensively used. So far as the public is aware, no appreciable improvement has been in evidence since then, although India is supposed to have now got full autonomy in her Nation Building spheres. The efforts of the sister Departments have met with even more limited success.

The question is inevitable—why? Why should not our cultivators, living in abject poverty, be eager to avail of the benefits brought to their doors for improving their condition? Why should the officers of the various Departments have failed to carry the results of the experiments home to them? It helps no one to lay the whole blame either on the apathy of the cultivators or on the inefficiency of the Departments. To do so is merely evading the issue.

Why this inefficiency and apathy? As will be testified to by all, who have worked with them—including Sir John Russel himself—the Indian cultivators are neither more conservative nor more ignorant than many of their opposite numbers in more advanced countries. In its initial stages the Department, mostly under the guidance of young experts from abroad without experience of Indian conditions, undoubtedly committed blunders. Occasionally laboratory experiments were planned having little or no relation with the actual requirements of the cultivators; costly machinery were tried and scrapped; but these were gradually rectified with experience and with the increasing association of Indians in the higher ranks. It will be testified to by all impartial men who have come in close contact with the service that it lags behind none in the enthusiasm, efficiency and good intention of the responsible members, whether European or Indian. The inefficiency of the Department and the apathy of the cultivators have undoubtedly been contributory causes and there is yet room for considerable improvements in both directions. They are, however, not all. Allowing for all the above, one must go deeper to discover the root cause of the failure. They are due largely to the following three principal factors :—

1. Want of responsible driving force with sufficient authority and prestige co-ordinating these efforts.

2. Want of bold leadership ; and surpassing all,

3. Ignoring the human factor.

The work was left to the various Departments without planned co-ordination. Many of those in authority looked askance at these efforts and there has not been enough of drive or authority behind them all. The number of officers were few. Very often the poor Demonstrators were left to shift for themselves and approached the villagers as best as they could. It was not fair expecting a few ill-trained, ill-paid, itinerant officers doling out a few handful of seeds to regenerate Indian Agriculture and then blaming the failure on them. With the inauguration of the Reforms in 1919, these Departments, comparatively recent, were transferred to the Ministers. There was a hustle on the part of the Legislatures for quick results. There was little real long range planning, most of the Departments being compelled to make their programme from year to year if not for even shorter periods. In agriculture one wants, above all things, a high degree of certainty over a long period of time and one cannot suddenly change the programme from one thing to another. There

must be a consistently long term plan over a fairly long period to obtain the full effect. The Agricultural Departments in India, particularly in the Provinces, have rarely enjoyed the benefits of working under these conditions and if the spasmodic and un-coordinated efforts have not always achieved the results aimed at, it is not fair to throw all the blame on the Departments or the cultivators. Those higher in authority responsible for formulating policies, cannot escape their share of the responsibility.

It must be stressed that the best of schemes, however well planned, will depend for its efficient execution on the personnel, whether of the Departments or of the village. The most well thought out plan will fail in its purpose when this most important factor is not given its due importance:—the human operator on whom the success of all schemes must ultimately depend and it is in this that most of the Government schemes have been lacking:—*the supreme link of human contact*. A little digression to a village about forty years ago will not be unprofitable; a back ward village in East Bengal. The population consisted mainly of illiterate cultivators, without even a school or post office within miles. The only officials they knew were the chowkidar and the village Patwari, the rent collector, for neither of whom they had

an overwhelming love. For generations the peasant had been treated just as an incident on the land to provide rent for the Zemindar and the Sirkar. He had no evidence that either cared for his welfare, mental or physical, or even for his existence so long as the rent or revenue was forthcoming. The visit of a high official, once in a blue moon, often meant "Begar" or "Dali", (even if without the officer's knowledge), and the best course was to be miles away from such 'Visitations.' The writer yet vividly remembers the sensation caused by the advent of the local Sub-divisional officer to a friend—a retired Government Officer who had settled in the village instead of migrating to the town. As soon as the people learnt that he had no ulterior motives, the whole court-yard was filled with curious cultivators who came to have a sight of the august personage. This may read like a story in these days when even an Honourable Minister may pass by in his car through a village without attracting any notice or may even cultivate the villager's friendship during election times; but I am stating a personal experience. The village might have been a particularly backward one but it did exist and so did others like it. Now, when the Demonstrator suddenly came upon the unsophisticated cultivators in a similar village with his first dose of

uplift, the cultivator's first re-action was simply to shut up shop and to be "not at home". . If the demonstrator went to his house he was in his field, if to the field, he was in the house ; or may be, had gone to the market. He simply could not be got at. When a persistent demonstrator, after several attempts, did get into touch, the cultivator quietly listened to all the talk about scientific agriculture, the latest fad of the Sirkar, and, to avoid trouble, agreed to everything. And then he forgot all about it as soon as the demonstrator turned his back ; or perhaps he consulted the village "Dewan" (the wise man) who advised him to avoid the Sirkar's man like a snake ; this was only another pretext for raising the rent of the land. If by more perseverance, the demonstrator, ultimately succeeded in unloading on to the cultivator some of his quota of the Departmental improved seed, he very often forgot to sow it and the demonstrator had neither the time nor the energy to see to the actual sowing. In any case, there was little difficulty in pointing out any particular plot as being sown with the Departmental seeds. Here again I am telling not a story but my personal experience, which may have been particularly unfortunate : I do not know. But there were exceptions or we could not have persevered. There were demonstrators who sat down with the

cultivator, enquired about his family and smoked his hookah before starting his talk on the seed, which he did indirectly ; or perhaps he first got into touch with a person of intelligence and real influence in the village and approached the cultivator through him. There were villagers who had been to towns and knew that there were Government officials having no connection with collection of rent or sending people to jail ; that an Agriculture Inspector was not a Police Inspector ; that Government not only collected revenue but also wanted to help the cultivator in its payment. These people were the exceptions, through whom have spread the gospel of scientific agriculture, to however limited extent, into the villages. Or the improved seeds would have hardly gone out beyond the confines of the experiment stations.

The trouble with the uplifters of the several Departments was that they worked without any co-ordination, without any drive from behind : They all tried to uplift technical efficiency piecemeal, each in his own sphere, without uplifting the whole man. The teacher tried teaching him read and write, the medic treated his body, the Agricultural Inspector tried to make him an efficient agriculturist, the Co-operative Inspector a Co-operator, the weaving Instructor an artisan. But no authority tried to co-ordinate the whole

and approach him, not as a mendicant—a recipient of favours—but as an intelligent complete human being to whom the land, with all that was best in it, by right belonged. The bureaucratic machine approached the cultivator as another machine ignoring the all-important human factor. The vital spark, the human touch, which infuses life into all successful movements and converts even the meanest drudgery into an ennobling duty, had been lacking. On the one side were all the Government paraphernalia, ready and anxious for uplifting the mass; on the other, was the huge peasantry—pathetic, inert, steeped in ignorance and poverty, with just a thin curtain between. The magic wand, the human contact, which could lift the curtain and bring light into darkness was wanting. Hence the failure; hence the tragedy.

If this is to be changed, as changed it must be, if all this energy is to be released and utilised to the fullest, there must be a re-orientation—a new angle of vision. All plans, all workers must take note of the human factor. They must be imbued with idealism, cheap gibes to the contrary notwithstanding, the idealism of a Swami Vivekananda—the great seer of modern India—with whom first originated the urge of rural uplift in India and whose motto was “*service of humanity.*”

CHAPTER II

UNEMPLOYMENT AND THE RURAL PROBLEM.

The rural problem, in fact the Indian problem, requires a revolution rather than evolution for real and effective solution—ordered though it must be. It cannot be regarded as an isolated phenomenon and dealt with by piecemeal measures; it requires thorough drastic treatment. It has fortunately now been recognised in all quarters that the real progress of any nation is not possible without simultaneous progress in all spheres of life. Medicine without adequate nourishment, education with a diseased and ill-nourished body, will avail a person little. Food without intellectual or social amenities will not satisfy a normal human being. It must be realised that no radical and permanent progress in any direction is possible if, as at present, the overwhelming proportion of India's population depend on agriculture alone without planned industrialisation. That way surely lies the perpetuation of India's economic bondage. A nation of 400 millions of farmers, however efficient, cannot stand up to the mechanised nations of the West. Neither

agricultural, or industrial efficiency will by itself lead to India's salvation. Both must proceed simultaneously. The time for industrial, agricultural, social or moral efficiency in water-tight compartments have long been past. It cannot be stressed too often that the treatment must be of the whole patient and not of any particular organ or disease. The time is for immediate and determined action embracing the whole Nation in all its spheres. It is in a spirit of bold, challenging statesmanship, therefore, that the task of the regeneration of India, simultaneously in all her spheres, must be undertaken.

A beginning, however, must be made at some point and let us start with the village. India is a land of villages of which there are over seven lakhs with over 80 per cent. of her population living in them. Village is the hub around which Indian life revolves. "In India," in the inimitable imagery of Tagore, "the people have their home in the village and their offices in the city." The 1941 census shows that the cities and towns above 5,000 population in India possess an aggregate urban population of less than 60 millions. The trend of human movement during the present century has, however, been mostly to the city—away from the country; and India has not escaped from this universal tendency. Very

low as the village literacy already is, this migration has further denuded the country-side of its small quota of the educated middle class who have increasingly flocked to the towns with better social amenities and better financial opportunities. Villages, already backward, were left mostly to the poor illiterate cultivators and to the inefficient among the middle class who had nowhere else to go. Resident Zaminders, who formerly used to spend most of their income in the villages and were compelled to look after their improvement in their own interest, now live mostly in the big cities giving nothing back to the villages from which they derive the bulk of their income. The result was a further deterioration, the villages becoming more insanitary and less fit to live in, and the cultivators poorer. Worst of all, they were left without any natural leaders who alone could lead them back along the right course and whose duty and interest was it to do so. It is from the absence of such leadership that rural India has suffered a serious handicap compared to Western countries, a fact which struck Sir John Russel so forcibly.

"Perhaps the most serious of all the difficulties confronting Indian Agriculture is the lack of an agricultural aristocracy and of an educated agricultural middle class. Many of the great

advances in Western Agriculture are due to men of this type; highly competent agriculturists rooted in the soil with a thorough knowledge of crops and live-stock and a shrewd idea of how to get the most out of their land. It is quite certain that without them the West would have been in a far poorer position than it now holds. The existence of this educated class gives a social attractiveness to life in the country."* An essential preliminary to the rehabilitation of the villages and regeneration of Indian Agriculture is, therefore, the settling of an educated middle class who will assume the necessary leadership, which to be effective must be evolved from within and cannot be imposed from outside for all times. The village leader must be in constant touch with the cultivator, studying his daily needs and wants. He must merge himself with the peasantry. It is only then that he can win his confidence and help him onwards.

The result of the exodus did not, however, prove a panacea for the young unemployed who congregated into the towns. They did not find it all plain sailing; all that glittered was not gold. Employment was difficult to obtain—living expensive. The education which they had received at considerable cost and sacrifice on the part of

* P. 60 Applying Science to Crop Production in India.

their parents made them fit for nothing but quill-driving; an already overcrowded occupation. There was increasing unemployment in the cities and stagnation in the villages: there was dissatisfaction all round

The question of increasing unemployment among the middle class began to engage the serious attention of the Government as well as of the public from the beginning of the present century, and various remedies were suggested from time to time. According to an important school of political thought the solution of the unemployment problem held the key to the political problem of the country. The unemployment of any large section of the population in any country is undoubtedly an important factor in political unrest. During the world-wide slump of the thirties, the situation became further aggravated and most of the Provincial Governments set up various organisations and committees to devise solutions. Most of them explored various possibilities and submitted voluminous reports formulating different schemes. Large scale industrialisation, cottage industries, middle class farming, agricultural colonies, vocational training all came in for their share. But running through them all, sometimes subdued—sometimes pronounced, but always persistent, was

the one keynote "Back to the Land," "Back to the Village." It was felt that the educated middle class had travelled too far from mother earth, had become divorced from the realities of life and that no permanent and radical solution was possible until the spirit was checked.

There was an impression in some quarters that all that was necessary was for the young men to go back to their villages, take to the plough and all would be well. The importance of agriculture was stressed, the dignity of manual labour extolled and rosy pictures of the open air life held up. Here again I am afraid the human factor was not given its proper importance. The problem was not studied in all its bearings. Whether enough land was available, whether the educated young man could make a decent living out of the soil under existing conditions, and above all, whether he was sufficiently trained for the purpose and if not how to obtain this, whether the village was fit for him to live in were questions not carefully considered and answered. As a matter of fact some young men did go back to villages inadequately equipped, and returned sadder but wiser.

Another school was all for Industrialisation, not giving due importance to the basic fact that agriculture, after feeding her millions must ulti-

mately provide the raw materials of most industries and that in India at least no industry could prosper without the simultaneous prosperity of agriculture. The example of Great Britain could not be copied wholesale elsewhere.

Nothing practical, however, came out of these committees and reports. Before the Government could make up their mind and launch any comprehensive scheme, the problem was solved for every one—temporarily at least—by the advent of the war. The whole problem of unemployment vanished as if by magic. Offices where an M.A. could hardly secure an interview were going without their full complement of even Matri- culates. Private firms found it extremely difficult to retain their staff on economic salary or obtain new recruits. The war industries and the rapid expansion of various Government Departments were absorbing every able bodied individual with a modicum of education. Huge posters and advertisements appeared every day picturing the most attractive prospects offered by various Departments of the Government, both civil and military, and boys rushed to them in large numbers as soon as they came out of their teens. The demand was for men, more men and for yet more men; not only for men but also for women. The teaching profession, formerly, their

only refuge, no longer attracted them. They were now entering different offices in all the big cities.

But these conditions were merely transitory and cannot continue much longer. The war has come to a close. With the cessation of hostilities has begun the gradual disbandment of all War Organisations and the reduction of the huge bureaucratic machine which was absorbing so many of the formerly unemployed. Many of the private firms, now engaged in war work, will also soon reduce their staff. Business and trade will revert to normal, and professions will be full. Government is reserving a certain proportion of permanent vacancies for demobilised men who will, however, displace those now in temporary employment. New industries will, it is hoped, spring up absorbing some. But the proportion absorbed in all these will be a mere fraction of the number discharged. Those who came direct from the villages will find their places filled up and feel like fish out of water.

It will then, however, be a question not only of unemployment of some people for whom food must be found but something much more serious. If the large number of such young men and women who have made good money and have been accustomed to spend it rather freely, are allowed to roam over society, in their impression-

able age, without sufficient and useful occupation, the psychological effects will be disastrous. The Government is undoubtedly preparing schemes to safeguard against such contingencies, and Post-War Reconstruction Departments have been set up in all the Provinces. Government wheels however move slow and do not always get even started till a crisis is actually on, and things have moved almost beyond control. The position has been further aggravated by the introduction of Provincial Autonomy, creating divided responsibility. This has not infrequently led to fatal results. There have been too many recent cases for the public to forget. If there is a repetition of similar unpreparedness, the disaster which will overtake society will be of an overwhelming intensity and magnitude.¹

¹ The following extracts from the remarks of Mian Khan Bahadur Afzal Husain in the Bengal Famine Commission Report (which came out after the pamphlet went to the Press) will be illuminating.

On looking back one is astonished at the unpreparedness of India to meet the food situation during an emergency. In England a complete food scheme had been worked out before the war started. It has not been possible to ascertain whether H.M.G. had, at any stage, suggested a similar study of the food problem of India in case of war. It may be said that India had passed through the last Great War without any food difficulty, and therefore the position did not demand attention. On the contrary, for years, numerous investigators and writers on economic, agricultural, medical and nutritional problems had been pointing to the seriousness of the food situation in India. Stationary, if not declining food production, rapidly increasing population, underfed millions, disease and high mortality had been the topics of serious thought and discussion. Was the Government ignorant of the normal food situation in the country? Did not dwindling exports

It will, therefore, be fatal to take a complacent view of things. It is the duty of the public who are always the ultimate sufferers to watch the situation carefully and study the various schemes which are being prepared in different quarters. They must be ready, each in their own sphere, to assist in translating such plans into action. Large scale schemes involving the whole nation can only be successfully initiated and executed by the State. But no scheme, however well planned, can be successful if it depends for execution on paid staff alone. Close co-operation between the Government and the public will be indispensable. One can only hope that such co-operation will be forthcoming not only between the Government and the non-officials but also among the different sections of the public, irrespective of one's political label.

In considering in what professions this large number of young men can be most readily and usefully employed, the Land—as in the past—will

and increasing imports for a pre-eminently agricultural country indicate a danger?

Even after war had been declared the food question received little attention. Even after Japan entered the war, food was still considered a problem of secondary importance. The Bihar Government's warning of 1940 was not heeded. A series of price control Conferences and Food Conferences had urged a better and co-ordinated control of food. They caused not a stir, till the situation was out of hand.

again loom large. The occupation which provides employment for the bulk of India's population is again bound to call the largest proportion of the discharged personnel. National economy also requires that agriculture should have her fair share of the educated youth.

The question, however, arises what opportunities will these men have under present conditions. The circumstances which led them to leave the country-side apparently continue unchanged. How can they risk going back: why should not they try the city again? It will be the purpose of the following pages to answer the question and suggest means as to how the services of these young men can be utilised to the advantage of themselves as well as of the country.

It may be conceded at the outset that agriculture is, all the world over, one of the least paying of professions. One is struggling against Nature most of the time. The advantages of a city-life are apparent—fixed hours, fixed income with all the excitement the city provides. Agriculture is hardly for the man who is fond of sedentary work or the excitement of city-life, nor is it for the ambitious man who wants to amass a fortune. Against this must be remembered that the average farmer grows his own food and gets fresh and healthy nourishment beyond the

reach of the average townsman of the same status. The pleasure which is derived from watching one's own tree grow and bear fruit, by working with and fighting Nature as need be, is, to many, much greater than an hour in a cinema. For the average man with a small capital, who will be satisfied with a healthy and honest living working in the open air, agriculture now holds as good a prospect as any other profession. He must, however, come with a new out-look; he must scrap obsolete methods and adopt scientific practice and improved technique which have made agriculture a paying proposition in the Western countries. If agriculture is to be raised from the mire to which it has fallen, it is only such men who can do it, and by adopting new methods.

Fortunately, the last three years have effected a considerable change in the agricultural conditions in India. Obstacles to profitable farming which appeared formidable are in the process of being gradually removed. Prices of agricultural produce have gone high, perhaps never to return to the old level. Roads have been and are being constructed in the interior, opening up new land and facilitating transport of agricultural produce, a factor of tremendous importance in profitable agriculture. A large quantity of war material will be available, enabling the use of improved

machinery and even of power. The advent of the small electric motor and the small portable petrol engine will bring the use of mechanical power in rural areas within the realm of practical politics. Schemes for electrifying rural areas are already under active consideration and will undoubtedly materialize in the not distant future. This will bring power within the reach of almost every village. The old order has vanished—never, let us hope, to return. This is not to say that the time has come for complacency. The new opportunities have got to be directed along the right channel and utilized before they can have their full effect in improving agricultural conditions. The time is just ripe for a supreme effort for an all out drive, without which things will revert to their old grooves.

It is here that the demobilized young man will have his opportunity. He has worked under supervision and learnt the tremendous importance of punctuality and attention to details. He has seen at first hand, work of a variegated nature and appreciated the inter-dependence of various factors in the execution of any particular task. In many cases, he has learnt some particular handicraft and acquired an aptitude in the use of some tools, in which most of our cultivators are fatally lacking. He will have acquired the team spirit and

realized the tremendous advantage of co-operative over individual efforts in all spheres of activities, a factor which is going to play a most significant part in the rural regeneration of future India: Above all he will have shed the fatalistic spirit and learnt that obstacles are there, only to be conquered. In fact his whole vision of life will have been altered and he will come back as a new man, full of hope and determination. With the cessation of hostilities, India must begin a new and incessant war against her insidious and perpetual enemies—a war against inertia, ignorance, poverty and disease; and it will be for these young men, alert and ambitious, with a new vision, to lead India to victory in this new battle—so that she can take her rightful place in the comity of Nations. It will be for them to resume their natural leadership in rural India: The present backward condition of agriculture, instead of proving a deterring factor, should only act as a further incentive. A comparison of conditions in Eastern Europe may serve as a lesson:—“In many directions there are great opportunities for developing efficiency, in securing the use of better seeds and more manure, in improving the quality of the animals and introducing more modern methods of feeding them. Nothing has yet been done about ground fertilisers. In many

Eastern European countries, dung is used for fuel, instead of on the land; in some it is used as building material for pigsties. Even in the West the methods of collecting and conserving cow-dung, in France for example, are primitive and involve an enormous loss of plant nutrient: The liquid manure is not saved at all. Yet the liquid manure cart which, despite the offensive odour, contributes so much to the phenomenal high grass and hay yields in countries like Switzerland, should be a regular feature everywhere. As for artificial fertilisers their use in Eastern Europe is practically unknown; Germany is said to have stimulated fertilisers consumption in Poland but the quantities used are still insignificant—compared in relation to the whole area farmed. Considering how little new nutrients of any kind is put back into the land it is surprising that these Eastern countries do not get even lower yields.”* If an educated farmer can make a living in Europe under these conditions, so can his counter-part in India. Scientific discoveries have placed resources within his reach to change these things for the better. The job is waiting for the man and the man for the job and it is for

the Government and the public to bring them together. It is when things are at their darkest that the prize is the highest for the bold imaginative man. It was a Dunkirk which revealed a Churchill. There is, however, no time for pusillanimity or hesitancy. The time is for quick, determined and concerted action or the golden opportunity may slip by never perhaps to return in our generation. Once the men have drifted to other occupations, the surplus war materials utilized for other purposes, the present enthusiasm evaporated, no amount of planning, however meticulously worked out, will be of any avail. The right type of men—the one indispensable factor for the successful execution of such schemes will not be forthcoming. The vast expenditure of money and energy spent on these men during the last few years must be harnessed to the country's needs and directed along right channels instead of being one frittered away.

A serious responsibility will, however, lie with the Government in the selection of the right personnel. In the huge material which the Government has gathered under it, there are all sorts of persons, good, bad and indifferent; the right kind must be sorted out with care and fitted in their proper places. Unfortunately, in India, as well as in most other countries, the agricultural

classes have very often consisted of men who have been lacking in energy and initiative or have failed in finding scope in other occupations. There is a prevalent notion that agriculture is good enough for any one. "No man is considered to be too big a fool to be a farmer." This, however, is very far from being the truth and to this notion is very largely due the present backward conditions of agriculture in India and many other countries. The time has come to revise the notion. In some respects, it is the most exacting of all occupations, demanding incessant vigilance and care and requiring a working knowledge of various other trades. Agriculture is based not on one but on various sciences. It should be the business of the Government to see that those who revert to the land do not consist mainly of the refuse of other professions. There must be enough of others to guide and lead. Rural India demands, not the reject, but the select; she is entitled to no less.

CHAPTER III

TRAINING AND ORGANISATION

No one needs to be told that he must have a training in the profession which he proposes to adopt as a career. Agriculture is regarded as the only exception. There is an impression in some quarters that as it is practised by the illiterate all over the country, one need only take to the plough and start; but one must learn even to plough a furrow straight. The cultivator has been carrying on his work for generations, and it is in his blood. He observes and takes part in the work since his toddling stage and unconsciously imbibes a lot of knowledge and practice. Even then the cultivator has not made a very good job of it. The educated farmer, starting without this initial advantage, must not only make up for this, but must also improve upon the traditional methods of the cultivator. He must adopt improved technique.

Improved agriculture is based not on one science, but on several; it is not only a science but also an art—the skill for which must be acquired by constant practice. Scientific discoveries, during the last quarter of a century

have placed new weapons in the hands of the farmers to wrest more from the soil, but they must be trained to use them, and only by so doing will usher a new era, both for the country and for themselves.

It hardly needs stressing, therefore, that one must have a sound training, both theoretical and practical, before settling on the land. One must be a practical cultivator to make money out of the soil. This has been occasionally lost sight of in the past, with grief to those who have tried the experiment. This, however, need frighten no one. Training for the average man need not necessarily mean a degree course in a college. As a matter of fact many of the demobilized personnel will be too old for the purpose. Fortunately in agriculture one can learn as he earns. Before proceeding further, this will be a suitable place to consider the kind of organization which will be most favourable to the successful execution of the plan formulated in these pages. The kind of training will depend on and form an integral part of the organization.

What distinguishes a man from an animal is that he wants satisfaction not only for his body, but also for his mind:—intellectual and moral. Provision for merely physical existence, even if adequate, does not satisfy him. He must

have recreation, society and facilities for educating his children. Very few villages provide these. Even elementary physical amenities are inadequate; sanitary and medical provisions are most unsatisfactory. All these must be changed if the educated man, who wants not merely to exist but to live, is to be attracted to the village; it must provide something more than the mere elementary needs of the body. At the same time we cannot wait for the village to be converted into the Utopia (compared to the present standard) before work can be started. Both must proceed simultaneously and a practical via media sought. Developments must also be simultaneous along the different lines and properly co-ordinated to have their full effects, viz., (1) Public Health and Medicine, (2) Education, (3) Agriculture and Fishery, (4) Industry, (5) Social amelioration.

The first step should, therefore, be the creation of a number of selected villages as centres which could be gradually developed as model villages where trained men and women could settle to begin with, and from where the work could radiate.

In the words of Tagore again: "Whenever the people of one single village will have learned effectively to combine for the promotion of health,

education, employment and enjoyment of life of each and all within that village, they will have lighted a torch in the path of Swaraj of India. Thereafter it would not be difficult to light one torch from another, and so Swaraj will advance of itself, along the route of multi-sided development illumined by its spirit of self-reliance.”¹

To begin with, there should be in such villages, a medical graduate with a well-equipped dispensary, a high school for boys and another for girls, a trained agriculturist, preferably a graduate with a small farm and seed godown, a weaving instructor and last but not the least, a veterinary assistant with a dispensary. A library, a cinema and other forms of recreation might come later. The establishment of such a colony, by itself, will help in attracting other middle class people to the village. It will then be able to improve other villages coming within its sphere of influence. A few such colonies, it is understood, have been working with success in the Punjab. These proposed villages will not, however, be segregated colonies of only educated men, but will include all the classes ordinarily resident in a village. The educated section will be expected to act as leaders. The nucleus of such centres already

¹ Reconstruction and Education in rural India. Prem Chand Lal, Ph.D., page 31.

exist in many villages with a school and dispensary ; which can be developed as training centres, with the necessary agricultural and other equipments. What is wanted is a definite plan and co-ordination. Initiative must first come from the Government.

The scheme, however, envisages voluntary co-operation between the Government staff and the people. The settling of a few officers or of a few educated men in a village will, by itself, achieve little. The initiative will have to come from the top with a Government which can ensure such co-operation. One can only hope that such transformation will be effected before the war is over.

The Farm referred to in the previous paragraph should serve three purposes : Demonstration, training and propagation of improved seeds. It should be adequately equipped for the purpose both in our men and materials. Initial training to the prospective farmer can be given on these farms for about three months and he can come back for a further course later. Annual exhibitions should be organized in these, demonstrating the results obtained on the experimental stations. Improved seeds of all varieties should be available here. Extension lectures should be arranged in each village by the demonstrators, or village

leaders by whatever name they may be called. They must have been given a thorough training both in theory and practice and should have attended a short course in a regular agricultural institute. A serious mistake in the past has been in sending out ill-trained demonstrators to the villages, many of whom have done more harm than good and which has taken a long time to repair. The ordinary cultivator judged the department by its demonstrators with whom he came into personal contact. When he discovered that the demonstrator was lacking in knowledge of ordinary agricultural practice, he lost all faith in his scientific advice which might have been quite sound. The practice in the best schools in placing a senior teacher in charge of the Kindergarten classes is perfectly sound. The psychology of the unsophisticated villager is very similar to that of a child, and first impressions are all important. These demonstrators should be selected from the locality and not imported from outside. The latter cannot penetrate to the centre. Every village should have its own Hampden.

The training on these farms will be mainly of a practical nature, the theoretical portion being primarily devoted to explaining the improved methods advocated. As has been mentioned more than once, agriculture is both a

science and an art and the necessary skill must be acquired by constant practice. The handling of simple tools and improved appliances should form an essential part; above all, care of animals should occupy a large part of the course. It is an unfortunate fact in Indian Agriculture, that although our cultivators, within their limitations, may hold their own against many in the matter of crops their ignorance and carelessness in matters pertaining to animals is colossal; and this must be rectified from the beginning. It is in this branch that the greatest leeway is to be made and it is on this that the greatest stress must be laid during the period of training, both at the farms and in the extension schemes. We shall have more to say on this in the chapter on Animal Husbandry. There is another source from which a good deal of practical information can be derived, and whose importance can be hardly exaggerated, the practical experienced cultivators in each village, a source the young college graduate is rather apt to ignore. One can imbibe more practical knowledge from them than from the college syllabus. As in all other professions there are, in farming, the good and the bad, and if the average followed the lead of the best in each village, conditions would have been very different from what they actually are. The

writer wishes to render grateful acknowledgment to the unsophisticated village cultivator, who has been his main instructor in practical agriculture. Any time spent with them will be fully worthwhile. In a vast country like India there is a great difference in agricultural practice between different regions, and a good deal can be learnt by occasional visit to other places. A striking example as to how the ordinary cultivator can alter the agricultural practice of a locality has recently occurred in Assam. A few years ago the cultivation of vegetables and the raising of poultry in many parts of Assam were practically confined to the requirements of home consumption. The indigenous cultivator was satisfied with a single crop of paddy and a tiny vegetable patch for his own use. His needs were few, the land fertile and not overworked. There was considerable uncultivated area still available and a flow of immigration from the neighbouring province of Bengal, mostly Mymensingh. The indigent immigrant was accustomed to hardship and needed cash for all his requirements; for clearing jungle, for building house and purchasing cattle. He broke new land and introduced his agricultural practice wherever he settled. He has not only introduced the cultivation of vegetables and is raising poultry but has also intro-

duced such cash crops as jute and potatoes. He is taking two crops of paddy where only one grew before. The indigenous cultivator has not lagged behind, and is now growing all these himself, thus changing the face of the country : all this by sheer force of example without any propaganda. The Agricultural Department has helped by supplying seeds of improved varieties and giving instruction where required, but the main drive has come from the immigrant who has proved the most successful demonstrator.

In addition to the average cultivator there will, it is hoped, spring up in the future, a large class who will want to go in for farming on a larger scale and will want higher education. There will be others, who will have to act as research workers and instructors. In fact the demand for these in the immediate future will be quite large as the Government has large scale plans for post-war India and it has been realized that no work can be started without a properly trained staff. For all these men, a higher and more scientific training in Agricultural Colleges will be necessary. Fortunately, Agricultural Colleges in most provinces are already in existence. But unlike the Western countries very few of their products go back to the land for a living. Perhaps the training received is not quite ade-

quate for the purpose; perhaps, as we have already seen, life in a village does not attract them. In the West there is a large proportion of such students, who go back to the country, and it is mainly through their example, rather than through the paid staff, that rural improvement has mostly come. While a student in an American College, the writer worked on such a farm for sometime, an experience he will never forget. The owner was an M.Sc., a former University Instructor, who himself worked on the field with his men. The wife looked after the creamery. In the morning and evening all, master and men, sat down at the same table, the lunch being sent to the fields. In the evening, after dinner, the hired labour having retired, we sat down to discuss India, America, or perhaps literature as the mood led us. The women folk plying their needle all the time, would occasionally join in. On Sundays the husband would hitch a pony to the buggy and repair to the nearest neighbour, the nearest club or perhaps marketing in the town, with his wife. Motor car and cinema had hardly yet arrived. It must be our aim to settle such men in every village and make every village fit for such men to live. They will be no worse off than many people plying their pen for a mere pittance in the city. The course in the

Agricultural College will have to be devised so as to suit both the research worker and the practical farmer. There will have to be bifurcation after a preliminary common course. A plea may be entered here for a closer association of the agricultural colleges with the Universities which can and should play a vital part in the scheme. The students of the agricultural college should feel themselves an integral part of University life and not a separate body. Research workers would be considerably benefitted by such closer association. Spirit of research and investigation cannot be acquired, but can be best developed in the University atmosphere, working under recognized savants. Most of the Universities have chairs for many of the sciences on which agriculture is based and such association will be of mutual benefit. Agriculture, however, should have its own faculty in the University. The professors and students of an Agricultural Institute, which should include all subjects pertaining to rural life, can also impart a new tone, a new outlook, to the average student of other branches. The latter may also take up many subjects of such an Institute with considerable advantage to himself.

As most of the agricultural colleges in India are already affiliated to a University; no radical

alteration would be required to give effect to the above plan.

In Bengal there is an agricultural Institute affiliated to the Dacca University. In Barrackpore, the Calcutta University has got an Institute for practical training which can be developed into a full fledged institute for higher training.

The writer would venture to offer a further suggestion for establishing a closer link between agriculture and the University. Most of the Universities have now recognised various subjects in the curriculum of the Matriculation and Intermediate courses. Even laundry is a recognized subject for girls. Agriculture appears to be the only exception, although many of the subjects offered are of much less practical use in later life. It is suggested that this may now be rectified. Whatever profession one adopts, there are few people in India who do not own a few *bighas* of land, a few fruit trees or at least a vegetable patch. Whatever agricultural training may be received in the school or college, will be of some practical use and some of these students may subsequently enter an agricultural college or settle on the land, when such instructions will be invaluable. The difficulty of translating this idea into action is recognized, but they are not insurmountable. There was considerable opposition even in many

western countries when proposals for recognising agriculture for University degree was first mooted. But these have been overcome. In Bengal there are already facilities in some colleges and schools for receiving agricultural training, *e.g.*, the Rajshahi and Daulatpur colleges, and the Dacca and Chinsura Farm Agricultural Schools. There are many more in most of the major provinces. What is suggested is that these should be included in the regular university course. Without such recognition such courses do not unfortunately have much attraction for those who aspire after higher training.

CHAPTER IV

LAND TENURE : FARM SITE

Having received his training, the first requirement of the prospective farmer is securing a suitable site for his farm. In fact, this should precede his training, because on the site will depend largely the kind of training which will be most useful to him. And here he will meet with his first and perhaps the most formidable obstacle. One cannot, at the same time, be too fastidious in his choice, because on this will depend the success of his venture. No trouble will be too great.

The difficulties are largely due to the present land tenure system, particularly in the permanently settled areas. One of the potent causes of the present deplorable condition of Indian agriculture is the long chain of middlemen between the State and the actual cultivator and the infinite subdivision and fragmentation of the majority of the holdings which have reduced them much below economic units. The subject is too vast and complicated to be discussed in detail here. But as the question of agricultural improvement

is indissolubly linked up with a proper solution of this problem, a brief discussion of the difficulties which will confront our farmer, and some possible remedies is attempted below. Those desirous of more detailed information may consult the several works of Dr. R. K. Mukherjee, who has dealt exhaustively with this question.

The present tenancy system in the permanently settled areas is largely the direct outcome of Lord Cornwallis's Permanent Settlement Act passed in 1793, about a century and a half ago. There is now, between the Government, to whom the land belongs, and the cultivators, a large number of middlemen, whose function appears to be merely the collection of rent and adding a percentage for themselves before passing it on to the next man. They are, in plain language, mere parasites. The actual cultivator is treated as merely the tiller of the soil. Neither the Government nor the landlord are much concerned with the capacity of the peasant to pay, so long as the revenue is regularly forthcoming. Government is an impersonal machine, and the Zamindars, most of them absentees, show little or no interest in the land or in the efficiency of cultivation. On the other hand the cultivator has little sense of security, either in the possession of his land or in the enjoyment of the legitimate

fruits of his labour. It is hardly to be wondered that under the circumstances the cultivator is apathetic and agriculture has reached the present level of stagnation. The Zamindars as well as the cultivators regard land as a legitimate commodity for barter; to the latter, in fact, this under the present conditions, is very often the only means of raising any funds in emergencies. These constant transfers, our present laws of inheritance and social customs, have all led to considerable sub-division and fragmentation of the individual holdings and have led, as already pointed out, to their reduction below economic units. Judged even by the low standards of subsistence in India the economic holding, from which an average family could eke out the bare necessities of existence, has been variously estimated at between five to ten acres, depending largely on the nature of the soil. As will appear from the following figures (in acres), according to the census of 1931 the actuals are much less.

Bombay	C.P.	Punjab	Madras	Bengal	Assam	U.P.	Bihar	& Orissa
11.7	8.5	7.2	4.5	2.4	2	6	4	to 5

The individual cultivation per family of the majority, between 60 to 70%, is even less as many of the actual cultivators have no land of their own, but simply cultivate small areas under

superior tenants who own the holdings and sub-divide them among sub-tenants. Very often it is much less than even two acres. In Bengal, for instance, the Land Revenue Commission of 1940 discovered that the number of families, holding less than two acres was 46%, between 2 and 3 acres, 11.2%, and that between 5 and 10, 15% only. In an enquiry into 5923 holdings, which had changed hands, they further found that only 38% was actually cultivated by the owner, 31.7% by co-sharers, 24.6% by under tenants, and 5.7% by hired labour. The Commission was of the opinion that about 20% of the arable area in Bengal was cultivated on the share system, and not by the owner. This resulted in most cases in the cultivators receiving only half the product of their labour.

Very few even of these holdings are in compact blocks, but are mostly divided into small scattered plots. This fragmentation has been no less harmful, and has led to inefficiency in various directions. This has gone to such an extent that there are tiny plots, which are difficult to work even with bullocks, let alone the use of machinery. The following are some of the direct results of the twin evils of sub-division and fragmentation:—

1. The fields are scattered and the cultivator has to travel a considerable way

with his bullocks and the simple tools to reach them.

2. Personal care and supervision over these fields are difficult and economic use of hired labour a practical impossibility.
3. The use of improved machinery and improved methods are extremely difficult.
4. The innumerable 'bunds' and 'auls' dividing the plots throw a good deal of arable area out of cultivation and the wastage in the aggregate is considerable. The jungle growth on these also harbour insects and other pests. The only redeeming feature is that in some season in some areas these are the only green forage available to the emaciated cattle!
5. Irrigation under above conditions is very difficult and expensive.
6. Last but not the least, they are sources of constant friction and litigation between owners of adjoining plots.

It is clear that a radical change of the system is urgently called for. The Government, interested in saving the goose laying the golden eggs, have been recently forced by circumstances to take

some action, but this has been mostly of a spasmodic nature. During the last few years most legislatures have passed various laws abolishing irregular exactions, conferring certain rights on the cultivators, and making his hold on the land generally more secure. In the Punjab the land consolidation schemes have made considerable progress, and out of thirty millions of arable land one million is reported to have been so consolidated. Conditions in other provinces, where the evil is even more pronounced, are less favourable. Apart from the opposition of vested interests there will undoubtedly be objections from many of the tenants themselves to such schemes. Conservatism, the cultivator's attachment to his own plot, actual inconvenience in some cases fomented by interested parties, will all have their full play in such a large scale scheme, as in cases of all social reforms. This has been so even in an advanced country like France, when such schemes were being given effect to. But that is no reason for avoiding or postponing the inevitable. They should rather be incentives to early action. The difficulties can and must be overcome. The Bengal Commission has revealed the glaring inequity of the present system and has also indicated a way out. The necessity of a modifica-

tion of the present system has been admitted practically on all hands. India has surely not yet been so bankrupt in her statesmanship that remedies for an admitted evil cannot be discovered. It is a case where the inconvenience, even the distress, of the few, must be subordinated to the good of the majority and compulsion resorted to.

Piecemeal legislation can however only act as palliatives to be adopted till a thorough change in the system can be effected. There must be a radical change, not only in details, but in the whole outlook and conception in regard to land. Land must be looked upon primarily as the reservoir from which the whole nation draws its sustenance. If forests, mineral resources require conservation, land, the source of the greatest wealth of the nation, requires this still more. It is a national possession; and this fundamental fact must be recognised in all schemes of development or legislation. The land must ultimately belong to whoever cultivates her. In this respect many primitive tribes, where the revenue is raised from other sources and land is not for sale, are really in advance of many so called civilised nations.

The upheaval, which will be caused by any such large scale change, will undoubtedly drive many parasites away from the land. This will be inevitable and all to the good. These men will be

compelled to seek their living in more legitimate pursuits, mainly in industrial occupations; relieving the present pressure on the land. This will assist in the starting of new industries not only in the cities but also in the rural areas. This, along with increased agricultural efficiency, is equally imperative for rural regeneration. Agriculture's loss (!) will be industry's gain. The distress caused to the few during the transitory period may be mitigated by effecting the transformation by stages. The alternative—a wider and more violent revolution, which will follow if the present situation is allowed to drift indefinitely, will cause greater distress to a larger number.

The above shows the difficulties which have been placed in the way of the educated farmer by the present tenure system in securing a compact area for his farm. He cannot, however, wait till all this is changed. He must start with what may be available in his own village or elsewhere and continue acquiring adjacent plots, when available. There is, however, another direction where chances of securing suitable compact blocks are more favourable. There is yet in India a large area not brought under cultivation, termed "Cultural waste"; and now is the most opportune moment for colonising this with the new generation. The latest available figures for British India places this

round about 92 million acres, although it has varied from year to year. Current fallow is placed at about 45 millions. The figure for similar areas in the States is higher. It is significant that there has been no considerable change in the area shown as cultivable waste since 1918 when this was estimated at 86.4 million acres. It is clear, therefore, that for whatever reason, in spite of the pressure of population, increased poverty and malnutrition, there has been no appreciable increase in the area under cultivation by bringing a part of this available area under the plough in at least a quarter of a century. If anything, the tendency has been in the reverse direction. The recent GROW-MORE-FOOD-CAMPAIGN does not also appear to have marked any considerable progress in this direction. Too optimistic views of bringing all this waste land under cultivation which prevail in many quarters should, therefore, be discounted. The agricultural value of a good deal of this under *present conditions* is problematical. Many of these can only be re-claimed by joint effort and at considerable cost. Some are insanitary and require radical health measures ; some liable to depredation from wild animals making individual settlement impossible. Many are without means of communication, transport and marketing facilities. Even in Assam, where the immigration question is

looming large and such areas are considered abundant, such colonisation schemes have been held up owing partly to dearth of suitable sites.

This is not to say that there is no chance of starting such settlements. On the contrary it is within everyone's experience that considerable areas are still awaiting exploitation. It will be seen from the above that many of the obstacles can be overcome by large scale operations. Properly developed by combined action with State help, it is in these areas that the prospect of group settlement and of the adoption of improved agricultural technique will be most promising.

In their last meeting held at Baroda in November 1943, the Board of Agriculture and Animal Husbandry in India passed certain resolutions on a similar subject which are difficult to improve upon and are quoted in full :-

1. A survey of all cultivable waste land areas should be undertaken to ascertain to whom they belong and why they are not cultivated and remain unproductive. Projects should be prepared for the utilisation of such parts of these areas as can be brought under cultivation.

2. A survey should be undertaken of primary catchment areas. On this basis, suitable projects should be prepared for the control of erosion and the provision of irrigation.

3. A survey should be undertaken of cultivated lands not utilised to the full advantage due to causes such as the presence of deep-rooted weeds, water-logging, deposition of salts, the occurrence of sand dunes etc., and projects should be prepared for the improvement of such lands.

4. Projects should be prepared for the extension to the maximum limit of irrigation facilities by canals, tanks, wells and by the provision of pumping equipments.

5. Projects should be prepared for the rapid development of road and river communications.

These resolutions were passed by the highest agricultural experts of India more than two years ago and it may be hoped that action has been already initiated on the above lines. When implemented, they will give a clear idea as to what areas are actually available and how to develop them; the wastage entailed by individual effort will then be saved. Combined State and private action might then be taken in bringing such land under cultivation. This is essential if there is to be real extension of the area under food-crops. Distribution of some literature and small quantities of seed, replacing some cash by food crops are by themselves hardly enough to achieve the object. Let the Government show their earnestness in solving this vital problem by implementing the

proposals of their own experts instead of merely drawing up still more new schemes. In all such plans time is of the utmost essence : Let there be a beginning of action instead of mere discussions.

Reverting to the question of the selection of sites : The educated pioneer must begin with the the best of what is available and then try for better facilities. There is, as has been already pointed out, enough scope even under present conditions. The following factors will have considerable influence on the success of a scheme and must be kept in view in making a selection :-

(A) Climate, (B) Facilities of Communications, (C) Water Supply including irrigation, (D) Availability of labour.

CHAPTER V

FARM PRACTICE AND CROPS

We shall now discuss the general agricultural practice which should be adopted on these small farms. Knowledge about details of cultivation and actual skill will have to be acquired during the training and through practice and experience. All that can be attempted in a book of this size is to indicate the broad outlines and give some general hints.

The farming practice and the crops to be raised will naturally depend on the nature of the soil, fertility as well as adaptability to different crops, and on the distribution of the plots. Specialised farming as understood in the West will not have much scope in these small farms, and one must go in for mixed farming. There must however be a departure from the current practice of depending on field crops alone. Considerable attention should be paid to animal husbandry and growing of fruits which should be adopted as major items instead of merely as side-lines. Even on a small farm, they hold promise of larger profits than many field crops. Vegetable gardening is another side-line which will repay any labour that

can be spared, particularly near towns or where transport facilities are available. As a matter of fact near big cities truck gardening might be adopted as the main line. Another possibility to be explored is the growing of new crops. How this can change the agricultural practice of a locality by private efforts has been described elsewhere. What may be common in one locality may prove quite a novelty in another. Linseed, ground-nut and soyabean may be tried in many localities. With the development of the textile industry, there will be increased demand for cotton, which is now grown only in special areas. In many Western countries there is a special staff attached to the Departments of Agriculture whose particular function is to explore such possibilities. The intelligent farmer will find considerable scope for exercising his ingenuity in this direction.

Ordinary field crops may be classified under two broad categories :

(1). Food Crops and (2) Cash Crops ; the former consisting mainly of cereals and pulses and the latter of such crops as cotton, jute, tobacco, sugar-cane, potato and oil-seeds. There can, however, be no hard and fast line of division. The cultivator will sell the surplus food-crop and will consume some of the latter. The main cereal,

e.g., paddy or wheat, is always grown both for consumption and sale. Profit on cereal crops is always small, nor does it afford much scope for improved agricultural practice. On the other hand it is the safest and can be ordinarily depended upon to yield an average crop under a variety of conditions. It is also the basic diet for the majority and a considerable proportion of an average holding will be hardly suitable for any other crop. Cereals will, therefore, occupy the major portion of any holding. Subject to the above limitation, one should try to raise as much cash-crop as possible as it is from these that he will have to meet his expenditure in other directions. Sugar-cane is the most important cash-crop for Northern India, cotton for Bombay & C.P., and wheat for the Punjab. For Eastern India, jute, sugar-cane and potatoes are all equally important, depending on the nature of the soil. Outside the rice and wheat areas the Millets, *Jowar* and *Bajra* constitute the main grains particularly in the drier regions of Southern India.

It has been frequently stressed in the previous pages that the prospects of profitable agriculture depend on the adoption of scientific methods. It is necessary to have an idea as to what are meant and their possibilities. The word 'scientific' need not scare any one. Obviously they must be within

the reach of the average man with moderate means. They may be roughly grouped under the following heads :—

1. Improved tools and machinery.
2. Fertilisers.
3. Improved seeds.
4. Irrigation and other improved agricultural practice.

1. Tools and machinery :—

In distinction to many factors over which the small cultivator has little or no control, these are matters in which he is yet largely his own master. The term improved machinery usually convey to the mind such power driven machine as tractors, reapers, and pumping machines used in many of the Western countries. They can be used only on large farms, and under present conditions their use in villages is almost an impossibility unless worked in groups. But they were not in extensive use even in Great Britain and many of the Eastern countries in Europe until recently, when the War necessitated their extension. There are, however, a number of small but comparatively inexpensive tools drawn by bullocks which can be used with economy much more extensively than is actually the case. Some of these are the iron plough, which will do something more than merely scratch the surface, bullock-hoe, the seed-drill, the

chaff cutter and the bullock driven pump. In irrigation particularly the old tools must be replaced by power driven pumps wherever they can be used collectively. The common three roller sugar-cane mill, which has entirely replaced the old wooden mill is an example how a simple implement can be used with profit and change the cropping practice. But for its extensive use, the cultivation of sugar-cane which is now so common everywhere would have been practically limited to areas within the sphere of sugar-mills. Where co-operative cultivation can be adopted the use of simple power driven machinery such as the small threshing machine, winnower, water pump and even a tractor will be found useful and practical. Not that they will be necessary or practicable everywhere; but once introduced by the enterprising, they can be used in combination by the ordinary cultivators and effect a good deal of saving in labour and lead to increased productivity.

The educated farmer will have to remember that he will work under a serious handicap. The ordinary cultivator does all his own manual labour and takes no count of the work done by his women folk and the children during odd hours. The educated farmer will have to depend more on hired labour; the women and children will not be

available for work in the fields. He must make up for all this by the maximum use of labour saving devices and by growing crops which will require comparatively less manual labour. Both are possible.

An important factor which has prevented the use of machinery on a large scale in the past has been the absence of suitable arrangement for repairs and replacement of parts. Our cultivators are notoriously lacking in mechanical aptitude and will avail of the least excuse to let many tools lie idle. A missing screw, bolt or nut will be enough. They will prefer to tie up things with any odd bit of string rather than replace the missing part or even drive a nail. After the War, there will be considerable improvement in this direction. A larger number of trained mechanics for setting up tool and machine shops as well as surplus war materials will no doubt be available. Power, particularly Hydro-electric, will also be available in many rural areas. Such schemes are already under way in Northern India. The more enterprising may combine and start workshops of their own. This may very well be the subsidiary occupation of some. They may acquire such machines as tractors, pumping sets, etc. and hire them out to villagers.

According to an important school of

thought the production of machinnery in Indian agriculture will throw more labour out of occupation, and is therefore to be deprecated. This argument is as old as the birth of machine all the world over. The introduction of large scale machinery requiring farms of a hundred acres or over is beyond the range of practical politics, on a wide scale. On the few such farms now existing use of machinery is indispensable. If however, India is to produce her own requirements, pressure on agriculture must be relieved and tools must replace manual labour for many of the operations. A careful enquiry will show that even now many agricultural operations are skipped due to dearth of labour in the proper season, *e.g.*, irrigation; introduction of machinery will lead to greater efficiency all round.

2. . Fertilisers :—As our soil has been cultivated for ages without being replenished with any manure except the little cow-dung which could be spared after its use as fuel, it has now reached a state of minimum fertility.

The land, like the people, has been starved and the world records of low yields for many crops held by India could not go much further down. The hungry soil will, therefore, respond immediately to the use of suitable manures particularly on the high land. Moreover if there is an in-

creased take off by the use of improved seeds, irrigation and other improved methods, the plant food thus removed must be replaced or the soil will become depleted still further, nullifying the effects of the application of the other improved methods. Most Indian soils are deficient in Nitrogen and Phosphates and these can be best supplied in the form of organic manure—such as cowdung, bonemeal and green-manure. *i.e.*, growing and ploughing of a green crop, preferably a leguminous one, before allowing it to mature. This not only adds Nitrogen, the most valuable plant food, to the soil but improves its physical texture as well. This point should be always kept in view and organic manure including a considerable proportion of vegetable matter, should be used in preference to purely chemical manure. The latter, however, have their use when applied in due proportion. Ammonium Sulphate has proved efficacious on many crops. The Government of India has already taken in hand plans for the erection of a plant for its manufacture on a large scale and it may be hoped to be available to the small cultivator in the near future. The use of Compost prepared with home-stead rubbish now allowed to run waste is another source of readily available Nitrogen and can be prepared with the mixture of only a small quantity of cow-dung or urine.

Ever since its creation, the Agriculture Department has fastened on the economic use of cow-dung and urine as an important plank in its programme without however much appreciable result. The waste of cow-dung and its use as fuel cannot be too strongly condemned. This can be rectified with a little trouble.

Phosphates should also be used in other readily available forms such as superphosphate on cash crops, which remove a good deal of plant food from the soil.

3. Improved seeds :—It is however through the use of improved seeds that immediate and permanent results have been obtained with the minimum expenditure of labour and money. It is on this that the Agricultural Department in India has concentrated the greatest attention and achieved the most outstanding success. This is the one line of work which the cultivators have appreciated and adopted. Improved seeds of various strains of many important crops to suit different climates and conditions have been evolved and are available throughout India, but have as yet reached only a very small proportion of the cultivators. The quantity available is only a fraction of the actual requirement ; a vast field still remains unexplored. Seed selection is now carried out not only for high yields, but for evol-

ving various other types for special purposes, *e.g.*, for irrigated and unirrigated areas, for early and late varieties to be partially independent of the vagaries of climate. Not the least important is the attempt at producing disease and insect resisting varieties. It is being increasingly recognised that the evolution of such varieties is the most practical way of combating insect and fungus pests on a field scale. Neither the use of manure nor of improved seeds require much technical skill or heavy outlay. Having obtained the original stock of selected seeds from the Department all that is necessary is to continue one's own selection from the best plants. This will suffice for most plants and the simple technique can be learnt at any departmental farm. It is however desirable to renew the stock every few years, as the seeds get mixed and deteriorate.

Although the work may not have reached the high standard of the more advanced countries, even the work done so far will lead to an appreciable improvement if the seeds were in more extensive use by the common cultivators. As remarked by Sir John Russel:—

“The new selections and varieties which represent the highest achievements of the Indian Agricultural Science are only used to a very limited

extent. The ryots continue unaffected by the enormous efforts made on his behalf"

4. Irrigation . and other agricultural practice :—

The Indian cultivator is always scanning the sky for signs of rain and has to plan his operations accordingly. He is largely at the mercy of the rain-god. Sowing may be delayed by belated rains, or he may lose a promising crop nearing harvest, through a few days drought or a flood. This is what makes him such a fatalist. In a vast country like India, the rainfall varies within wide limits in the different regions, beginning from a few inches in Sind to nearly 500 inches in Chera-punjee per annum. Even in regions where the total is adequate for most crops, it is very unevenly distributed through the year, necessitating irrigation of the winter crops, which are the more valuable. Even a crop like rice growing in the rainy season requires water only at certain periods which it is not possible to regulate except in the irrigated zones. The importance of irrigation however has not been given its due recognition either by the Government or the cultivators themselves. It is only during the recent Grow-More-Food campaign that this is being stressed more fully. It is not always realised that although a moderate crop can be raised without irrigation the yield of most

winter crops have been found to have been increased by 50%, and occasionally even 100% by the use of water.

In the early stages Government irrigation works were mostly started as famine relief measures, but now cover a wide range. Up to the end of 1933, Government had spent Rs. 9,700 lacs on productive irrigation works in British India which irrigated over 21 million acres and brought in a nett profit of about Rs. 100 lacs per annum. Rs. 4,300 lacs had also been spent for famine productive works, which irrigated 4 million acres but resulted in a loss of Rs. 120 lacs per annum to the Government as they fetched no direct revenue. Against this must be placed the indirect receipts which follow the prosperity of the irrigated country side. It should be remembered that but for such irrigation many of these areas would have been stricken with famine, involving direct loss in various forms. Most of the existing irrigation works are situated in Northern and Western India and can only benefit those living in these regions. Cultivators in other areas must devise other means for irrigation. Rivers, running streams, wells, tanks should all be utilised: In many localities, particularly near hills, running streams can be dammed and diverted, instead of the water being allowed to run to waste. All possible sources

should be tapped for irrigation of winter crops which will well repay any trouble. Power pumps are to be recommended wherever feasible; otherwise bullock driven appliances, of which there are a good many, should be adopted.

With the question of rain-fall is closely connected another problem; erosion, which is now claiming increasing attention. Few people have any idea of the amount of earth which is annually washed into the seas during heavy rains and floods. As it is the rich top soil containing plant food in the most readily available form, which is thus carried away, the loss to agriculture is enormous. Some areas are almost reaching barrenness through this process. Deforestation, without careful conservation, had a considerable share in this form of wastage; and so has intensive cultivation without use of organic manure.

Crop rotation, as the name implies, is the cultivation of different crops on the same field in rotation in different season. Growing the same crop on the same field continuously has various deleterious effects on the soil;—physical, chemical, and bacteriological,—resulting in depleted productivity. The only exception is wet paddy in which case water supply is the limiting factor. The best practice with other crops is alternating a cereal with a leguminous crop, the roots of which has the

capacity of absorbing Nitrogen from the air direct. The custom is prevalent in many parts of India where a pulse crop is grown with or follows a cereal; although our cultivators are not aware of the scientific principle underlying the practice. Quite a large proportion of the arable area is kept fallow, to give the soil a respite. This should be reduced by following a judicious system of crop rotation and manuring.

Space does not permit going into the detailed results achieved by adopting improved methods. The results of experiments and demonstrations extending over a quarter of century collected from all over on India by Dr. W. Burns and published in the "Technological possibilities of agricultural development in India" provide interesting information.

On PADDY, taking India as a whole, and on a very conservative calculation; a profit of at least 30%, 5 from the use of improved seeds, 20 from manuring and 5 due to protection from insects and diseases—has been achieved. WHEAT is a most important crop in northern India, but its price is determined by world production rather than that of India alone. Irrigation has much greater effect in the yield than any other single factor. In the Punjab the dry WHEAT gave an outturn of 560 to 800 lbs. per acre against that of 960 to 1280 lbs.

in irrigated areas. In Bombay the figures were 400 to 600 lbs. against 1300 lbs. per acre of the irrigated Pusa variety. Different manuring under different conditions gave increases of 10 to 20%. Seed selection has been carried to a high degree of efficiency and the improved varieties gave considerably higher yields almost everywhere. SUGAR-CANE is another profitable crop almost through-out India. Even if one is not within reach of a sugar factory, jaggery may be sold at a profit in most parts of India. Considerable progress has been made in breeding superior varieties which have practically replaced the local varieties in important SUGAR-CANE areas. The technique of manuring and cultural practice has been similarly improved. The average yield per acre, which was somewhere about 8 tons early in the century, has been raised to about 15 tons. This can be further increased to 20 to 30 tons by a careful farmer with efficient management and actuals of over even 100 tons have been obtained in Bombay. There is still scope for considerable improvement in various directions before one can reach the highest world production of 185 tons which have been recorded in Hawaii. TOBACCO is a crop which has come into prominence within recent years and offers great scope for the use of skill and enterprise. The modern development

is in the direction of its production for cigarette. This has been further assisted by the limit which has been placed on the mixture of American tobacco into Indian made cigarettes. Although India is responsible for about 24% of the total world production, being the single largest producer country, the export was only about 2% of the crop raised. With improvement in quality there will undoubtedly be a further demand for export, and this will afford opportunities for the enterprising. The main production of cigarette tobacco is at present centred round Guntur in Madras. Bengal, however, has the largest tobacco area with 322 thousand acres; Madras following with 311 thousand. The main tobacco areas in Bengal are in the districts of Rangpur, Jalpaiguri and Cooch-Bihar, but tobacco can be grown profitably in various other parts of Bengal and Assam. Government has made various experiments in producing cigar and cigarette tobacco in Rangpur. The writer obtained in 'cultivators' fields in Rangpur, yields of over 1,000 lbs per acre of cigar tobacco, the best quality selling at Rs. 2/- per lb and the average between eight to twelve annas; an average crop being worth anything between Rs. 500/- to Rs. 1,000/- per acre. The growing and the subsequent treatment of both cigar and the cigarette

tobacco require special soil and skill, and the erection of curing sheds; but the profits are correspondingly high. There are undoubtedly great possibilities in this direction. Even ordinary tobacco is much more profitable than many other crops, provided the right varieties are grown in the right way. In Rangpur, the superior varieties used to be sold, before the war, at Rs. 15/- to Rs. 20/- per maund. With an yield of 10 to 15 mds., the produce was worth rupees two to three hundred per acre against that of Rs. 20/- to Rs. 40/- of pulses or mustard, the two other principal winter crops. JUTE is the main standby of the majority of the cultivators in many parts of Bengal, Assam, and Behar for supplying their cash requirements. The use of a combined chemical manure gave an yield of twenty maunds of Jute against 8.2 mds. with cowdung alone. Use of improved seeds gave increase of 5 to 10%. POTATOES can be cultivated in many new areas with advantage. With disease free seeds and suitable manuring the production of potatoes can be more than doubled. COTTON cultivation is scattered all over India in different soils and climates. It holds a unique position among the cash crops in as much as on its successful cultivation depends largely the most important industry, textiles, which next to the food problem is India's

greatest concern. The question of variety plays a most prominent part in its cultivation. Use of improved seeds, use of manure and crop rotation are all important factors in increasing the yield. Cotton seed is also used for feeding cattle. There is considerable scope for extension of this practice. The yields of JOWAR, BAZRA and oil seeds are all being gradually increased by the adoption of improved methods.

- These figures can by no means be considered over optimistic. The writer's own experience, which will be confirmed by others, may be interesting. He has often obtained increased yields of 30% or over from PADDY and double the average yield from sugar-cane and potatoes by the use of manure alone, the cost having been recovered many times over. The use of improved seeds has resulted in 10% to 30% increased outturns. Green-manuring entails the loss of one crop but with valuable crops this is more than made up by the increased outturn. The writer frequently obtained 200 mds. of potatoes or over per acre with the use of cow-dung and green-manuring; sacrificing a crop of aus-paddy, worth only about Rs. 20/- per acre. Similar was his experience with tobacco and sugar-cane.

A criticism not frequently heard is that with

the low price of staple crops, even such increases mean very little; an increase of 10% merely means an addition of about Rs. 4/- or so, per acre with paddy (Pre-war). It may be pointed out that an increase of 30% on the existing production through the use of improved methods on paddy alone would result, if adopted wholesale, in an increased production of about 13 crores of mds. which even at Rs. 2/- per md. would mean an addition to India's wealth of nearly Rs. 26 crores, not an exactly negligible amount. This might be repeated with many other crops. As has been stressed before, agriculture does not lend itself to spectacular results. It is the occupation of steady, hard working men who will be satisfied with a modest but sure living amidst clean surroundings.

CHAPTER VI

ANIMAL HUSBANDRY

In spite of being accused of repetition I cannot help stressing again that it is in this branch of agriculture that the greatest leeway is to be made and it is here that the educated farmer can prove his usefulness both to himself and his country. Hindú India is a land of paradoxes. The highest form of divine worship will be found juxtaposed with the grossest form of idolatry ; the highest conception of womanhood with the cruellest tyranny. The Hindu further proves this by his treatment of cattle. The cow is held in veneration as a sacred animal ; her meat is not only taboo, but the killing of a cow will rouse his worst fanaticism, and has been the cause of some of the fiercest communal riots. He will sacrifice even his life rather than see a cow butchered. But the same Hindu will see his cattle reduced to skin and bones, and die of slow starvation rather than grow a patch fodder. The professional Gowala will see the calf starve, drawing the last drop of milk from the cow's udder, and neglect the most elementary principles of cattle management. Hard words, but to our shame, true. I am afraid my Muslim brethren treat their animals no better. The present high stage of agricultural development in Europe and

the United States is largely the result of the important role animal husbandry and dairy industry play in its economy. The annual value of the Animal industry in India was estimated in 1937 at Rupees one thousand crores by Dr. Wright, and at Rupees Thirteen hundred crores by Sir Bryce Burt. Mere figures, do not mean much. What is significant is the fact that it exceeds the total value of all India's cash crops.

Her bovine population is the largest in the world, Russia coming second and the United States third. India's population, by and large, is mainly vegetarian, and milk is practically the only ingredient supplying a first class protein. The minimum daily requirement of milk for an average balanced ration in India has been estimated at 8 oz. per capita. Various estimates of consumption has been made and the average has been placed at about 5 oz. The daily consumption in most western countries where it is further supplemented by a liberal meat diet is well over 30 oz. per day per capita. It will have to be remembered however that an All-India average has little meaning for the majority. Milk, as such, is only consumed near the centres of production, and high yielding animals are only raised in a few restricted localities, where the consumption is also highest. The consumption in the Punjab is the highest and

that in Madras the lowest. The poorer classes in many areas, particularly in the cities practically have to go without any milk at all. The position has been summed up by the I.C.A.R. as follows* :

“From the nutritional point of view it has been calculated that 8 oz. of whole milk is required per capita per diem for a balanced diet. The minimum requirements of milk for the population, total 32 million tons ; allowing 10 per cent of the production for feeding the calves, 20.7 million tons are left for human use. Only 27 per cent of this, i.e., 5.6 million tons, are consumed as fluid milk. The greater part of the remainder is converted into ghee and the amount of the butter milk available may be reckoned at 12 million tons. If the consumption of whole milk is increased to half the total production, instead of only 27 per cent as at present, it will be necessary to increase production three-fold in order to supply 32 million tons of whole milk.”

In the western countries, the female is generally required for her milk and the male for meat, both for consumption. In India the male however is almost entirely required for draught purposes ; for ploughing, for working irrigation appliances and for transport in drawing carts. Without cattle agriculture in India would come

* Pp. 64—Agricultural Development in India.

almost to a standstill. Unfortunately, for nearly three hundred million acres of sown area, she has got only about 60 million bullocks or a pair for ten acres which is beyond the capacity of even a sturdy pair—not to speak of the emaciated animals usually met with. On the other hand a large number of weedy cows much in excess of actual requirement is maintained for whom enough food is not available. All this clearly shows the urgent and colossal nature of India's animal husbandry problem.

The present position, years of neglect, is that as the quality of cattle deteriorate owing to indiscriminate breeding, there is no attempt at careful feeding: most animals are not worth it. The result is still further deterioration and the rearing of a large number of gradually declining animals. It is essential that a practical beginning be made at some point to break this vicious circle or we shall get nowhere. The two obvious lines to proceed along, simultaneously if possible, are selective breeding and better feeding. Breeding is a matter of time and involves patient uphill work. Feeding, however, will meet with immediate response, as is within the experience of every one. It has been estimated that the available supply of concentrates and roughage are barely sufficient for only 29 and 78.5% of the existing bovine popu-

lation. The bulk of the concentrate goes, however, to cart-bullocks and the milch cows of professional Gowalas, the majority of the village animals depending on whatever forage they can pick out for themselves from the scanty pasture. As the area under pasture is gradually decreasing, every holding should have a small area under fodder crops, such as Jowar, Napier grass or better still, where it will grow Berseem and lucerne. Winter is the period when the supply of green fodder is the scantiest. Some of the fodder grown in the rains, can be chopped and preserved in pits in the green stage—as silage for use in the dry season. It has now been demonstrated that silage can be prepared in ordinary pits, provided that the stored fodder is not damaged by water. Any agricultural demonstrator will show how this can be prepared. The cattle should receive at least a small quantity of Oil cake and Bhusa if nothing better is available. The village cattle like their owners must be better fed.

The Agricultural Department took up cattle-breeding rather late, although Military Farms had done a good deal of work, particularly in crossing with foreign animals.* Although adequate data is still lacking, there is enough to show that the milk yield can be increased very considerably by suitable breeding and grading up within a com-

paratively short period. With pedigree animals an increase of 40% has been achieved in well selected herds within 25 years. But even with village herds an increase of 15% has been obtained in the very first generation. With pedigree animals results will be still more favourable. As the herd improves, the improvement in each generation naturally becomes less pronounced but is of more permanent nature. By crossing with imported animals even from another Province in India, 100% increase can be obtained even in the first generation. It stands to reason, however, and has been proved by extensive experiments that the only sure way of improving the indigenous breeds for milk production is to breed from pure line selections and grade them up rather than by importing animals from outside. The effect of the latter course, though more striking, is temporary. Enthusiasts, mostly town-people, have been led to make such experiments by glowing descriptions of the performance of foreign animals. The result was happy, neither for the cattle nor for the owners. The progeny deteriorated after short periods and led to disillusionment and occasionally to a loss of faith in cattle improvement altogether. It will not do for the villager to go in for all this fancy work. He should keep his nose to the ground and be satisfied with steady but less

spectacular results. High yielding animals are rather delicate and unsuitable for village conditions unless they can be specially cared for.

An annual average of 7,000 lbs. of milk is considered satisfactory even in England and this can be obtained from some of the Indian breeds with proper management. The present average is of course, very much lower. The most satisfactory type for the village farmer to aim at is a general utility animal, which will produce females with comparatively high, though not spectacular, yields, and hardy males for draught purposes. Only the best bulls should be reared for breeding and the other castrated into bullocks before they can function as bulls. Immature weedy bulls should never be used for breeding, which is unfortunately the prevalent practice. The importance of siring from nothing but the best bulls can be hardly over emphasised. The bull is usually more prepotent than the cow. Moreover, a bull will sire about three hundred animals in an active life of six years, whereas a cow will not breed much more than about—ten in her life. It is surprising that in cattle fairs a pair of well developed young bullocks will fetch about two hundred rupees, whereas a bull as such will hardly fetch rupees fifty. One important reason is that there are few cultivators who would have enough work for

a good bull, which can be used economically only in combination.

Dairying in India is yet in a very primitive stage. For those near cities, where milk and milk products are so much in demand, milk production under proper management should prove highly lucrative; and would also lend to co-operative work. Every city dweller suffers from inadequate and poor quality of his milk supply. The remedy lies partly, at least in his own hands. There are still people who will take cheap adulterated milk rather than pay a slightly higher price for the purer product. Their proportion is small, but they help to maintain the dishonest *Goala*. There should be legislation not only penalising the sale of such milk but enough civic spirit to see that the laws are enforced. This will help in encouraging dairying in the outlying areas of the cities, and also in distant localities where transport is available. There are areas in the interior, which though not quite suitable for cultivation are fit for pasturage and raising of cattle. The Nepalis make a speciality of this in the sub-montane areas, south of the Himalayas. There are many such areas yet available. These can be used for collective settlement and will be specially suitable for cattle raising and dairying by improved methods. It may be hoped that they will be

encouraged by local authorities. With co-operation and suitable transport the milk can be sold direct to the cities. With return of normal times, a distance of even hundred miles will mean very little in these days of motor transport. Where sale of fluid milk is impracticable, co-operative creameries can be started and butter or ghee manufactured with improved machinery. This is a most common feature in the rural areas of most European countries but is hardly existent even in the rudimentary stage in India. The extension of this practice will not only benefit the individual cultivator but the whole community by adding a most important ingredient to the dietary in which it is now sadly deficient—

* “To sum up it may be stated without fear of contradiction that in her Animal Industry India possesses an enormous potential wealth, probably greater than the value of a single industry of any other country in the world, and that its exploitation on scientific lines by the aid of an organisation suitably equipped for this purpose is likely to produce results of far-reaching importance in her future economy.”

* Pp. 147—Economic Problems of Modern India—Edited by Prof. R. K. Mukherji.

CHAPTER VII

SUBSIDIARY OCCUPATION

The question of subsidiary occupation which the cultivator can take up in his spare time is very important. In many areas he has periods of leisure between sowing time and harvest, particularly where conditions are not favourable for diversified cropping or where the country is liable to flood. He has enforced leisure during heavy rains and during dry weather when the field may be too hard for working. Always living from hand to mouth, the Indian cultivator cannot afford to ignore any opportunity of adding to his meagre income. Animal Industry, Fruit growing and Vegetable raising are side lines closely allied to and practically included in agriculture. Poultry-keeping is another such occupation which has hardly received the attention it deserves. There is considerable demand not only for ducks and fowls but for eggs which can be transported to the cities. Goat rearing is another side line which will come in very useful. Although India, specially North Eastern area, is a land of rivers and tanks and the population largely fish eating, scientific pisciculture has received little attention.

Rearing of fish in the tanks will entail little labour but may bring considerable profit. Sericulture and bee-keeping are also closely allied occupations which do not require any land and in which the women and children can also help.

Foods and vegetables are most important as well as paying; but require high land not subject to inundation or water logging. India is exceptionally favoured for the growing of a variety of fruits; there is hardly any fruit which will not grow in some part of India or another. Fruit is an essential ingredient of a balanced ration; yet the dietary of the middle class in the cities is sadly lacking in this. Fruit-growing on an extensive scale and as an exclusive occupation, though highly remunerative, can be undertaken only under special conditions. Different fruits require different soils and climate for the best results. One has to wait for three to five years or even longer before the trees come into bearing and a marketable produce is obtained. It cannot, therefore, be adopted as an exclusive occupation by the ordinary farmer. As a sideline for a moderate purse it provides various advantages over field crops, and will yield a better return with less trouble. Once the planting and the nursing stage is over, the daily manual labour involved is much less, and when the orchard is

a part of the homestead, as will frequently be the case, the owner can always put an odd hour or two and women folk can also help. Although most fruits are seasonable the work is not all congested within a few days, as is frequently the case with most field crops, but spread over a fairly long period. The crops are less subject to, though not quite immune from, the vagaries of climate and the trees can be irrigated individually. Insect and fungus pests can be more easily controlled. On the other hand when a crop does fail or a valuable tree dies, as will occasionally happen with the best of care, the loss is proportionately higher.

In fruits, even more so than in field crops, the importance of propagating only from selected stock is very great; in fact it is indispensable. Fruits of seedling plants do not necessarily breed true to type and are inferior in quality. It is, therefore, most important not only to grow recognised varieties but only from selected individual trees themselves, that is from grafts, and not from seedlings even of the best tree. Grafts moreover will come into bearing much earlier than seedling trees. It is only by growing from grafts that retention of the desirable qualities of any particular strain can be ensured. The difference in price between recognised strains even of the same

varieties is much greater than in the case of field crops. The original stock should, therefore, be obtained from some reliable garden or nursery of which there are now many throughout India. After procuring some good trees one can make his own grafts without much difficulty but this will necessarily be a matter of time. As with animals, the performance of each tree will be largely determined by the care and attention it receives early in its life, during planting and in the nursery stage. Careful and detailed instructions about suitable soils, manuring, and method of planting should be obtained from experts or from the nurseries from which the grafts are purchased. Pruning is a very much neglected art in India, rarely practised. It conserves the available plant food and ensures vigorous growth; keeps down insects and fungus pests by keeping the trees clean, and enables a larger number of trees to be grown in comparatively small areas.

The kind of fruits to be grown in any particular locality depends naturally on soil and climate. Limitations are greater than with most field crops. Mango is the fruit of Northern India, deteriorating as we proceed eastward and southward. Oranges grow in many parts of Assam, Darjeeling, the Central Provinces and the Punjab.

Pineapple has a wide range. It has proved

highly profitable in many parts of Assam, where it thrives both in the hills and in the plains under widely different conditions. The country varieties selling at about a scow to the rupee have been largely replaced by imported varieties such as the Queen and Giant Kew. The fruits of the latter are much superior in quality, some of them weighing even up to 15 lbs., and selling at over a rupee each. Some well managed pineries are believed to be making profits of Rs. 500,- to Rs. 1,000|-per acre (pre-war). Pineapples should be tried on a wider scale in Bengal and other places. There are, however, many other fruits like papaw, banana and lichies which will grow almost anywhere. Lime will grow under a variety of conditions; are available almost throughout the year and will bear transport. Apples, pears and plums will grow only in cold climates specially in hills. Another important factor to be kept in view is the keeping quality of the fruits. Where grown on a large scale, the bulk will have to be marketed to the big cities and the question of transport will be an important factor in all schemes of large scale fruit growing. Mangoes, oranges and pineapples are all suitable for the purpose. Fruits like papaw and even bananas will have to be sold mostly in the local market. A considerable proportion of the fruits which drop off or is in excess

of the local requirements goes to wastage at present. This can be made into jelly, jam, or syrup and exported to the cities. They will fetch very good prices in seasons when fresh fruits are not available. Small factories can be set up in villages by groups of cultivators in combination.

Vegetable gardening would provide a fair income, particularly in these days when small towns are growing up in the interior and transport facilities becoming easier. English vegetables are coming more and more in demand but the days of country vegetables are not yet over. A vegetable patch should form a regular part of every farm. The small surplus in each household may be collected and the consignment sent to the city to the mutual benefit of both. Vegetables are now being sent all the way from Behar to many places in Bengal and even to such distant places as Shillong. There is no reason why the demand should not be met locally.

India is a land of handicraft and cottage industries. Barely half a century ago every village had its own artisans in most trades. Unfortunately the competition with foreign made machine articles have either driven them away to the cities or compelled them to act as hired labour in the already overcrowded profession of agriculture. Until industries are established in

India and absorb these people it will be to the advantage of the village as well as of the cities if some of these can be revived. Spinning and hand weaving offer unlimited scope to the unemployed cultivator and will provide an essential requirement of the nation, which is next in importance only to food and which consume the bulk of the cultivator's spare cash. In Assam this is considered even now, an essential accomplishment for every well trained girl. Those growing tobacco may take up the manufacture of pipes and hand-made cigars. In many parts of North Bengal pajo or country arrowroot can be and is actually prepared from the Shoti (Wild Cassava) and is in great demand. In many places near the hills handles of umbrellas could be made from the bamboo.

In his rural reconstruction centre at Martardum (Travancore) Dr. Hatch has included a number of subsidiary industries such as basket and mat making, thread and coir making, hand weaving, preparation of tamarind and other small crafts. The best results will be obtained when the whole village or a group of villages can specialise in one or two handicrafts and the produce is marketed in bulk. For the educated farmer with a little capital various other avenues would be open. He could assist in processing and market-

ing many articles; a tool repair shop will be a necessity in every village in the new India. The new type of village will require the services of educated men as pioneers in various directions, in some of which he could fit himself in accordance with his taste and capacity.

It is not however, in every place that the cultivator has ample spare time at his disposal which is wasted. As already indicated this is so in areas where diversified cropping is not possible. But there are places where the cultivator is almost fully engaged throughout the year. In many parts of Eastern and Northern Bengal he has hardly any leisure except during the heavy rains. He arranges his crops in such a way that he is busy in ploughing some field almost immediately after harvesting another crop. January and February are his only two slack months, and he spends this in doing his annual repairs. Where spring rice is possible, this little time is also taken up. During sowing and harvesting periods he works from early morning till dusk and has very often his *Nasta* (his frugal lunch) taken to the field. Let us remember that even the cultivator is a human being and not a machine and let us not grudge him his occasional but rather infrequent fits of laziness.

CHAPTER VIII

AGRICULTURAL FINANCE : CO-OPERATIVE CREDIT SOCIETIES

The poverty of the masses is at the root of the Indian problem. The removal of this cancer is the common aim of all the Indian movements—Rural Development, Industrialisation and even Independence; the difference is only one of approach. This must, therefore, be the principal objective of all schemes of rural rehabilitation, which must begin by arranging for the removal of the present burden before planning for the future. It is a singular phenomenon that the rural masses on whom ultimately depends the whole economic and social structure of the country, forming about 90% of the population, have been suffering from the insidious disease of chronic indebtedness for such a long period without causing an upheaval; a singular testimony to their patience. Agriculture in India depends largely on the vagaries of the Rain God. There is always drought or flood in some part or other of India resulting in partial crop failure. Every crop-failure means a partial famine forcing the cultivator to have recourse to borrowing and

showing his utter-helplessness. He has no reserve, no staying power. If he has a surplus at any time, it goes immediately to the Mahajan without however liquidating his ever increasing debts; if there is a scarcity, he runs to the Mahajan again, always increasing the burden of debt, till perhaps he is deprived of his only possession—land or live-stock. He has never known how to break this chain and those who should have known better have never made any serious effort to that end, not realising that the ultimate result would rebound on them like a boomerrang.

All these have resulted in the gradually mounting rural indebtedness as will appear from the following figures for British India :

(In crores of rupees)

1911	1924	1930	1935	1938
300	600	900	1200	1800

It is rather surprising that inspite of recent legislations for the benefit of the villagers, the amount has been steadily on the increase and has reached this staggering figure. Possibly the relief measures were started too late; possibly they did not go to the root of the problem or there may have been other reasons. The fact is that under present conditions the cultivator really carries his profession at a recurring deficit; a most astound-

ing state of affairs for the largest industry of India. There is no use talking of "uplift" to a man with this load on his back, always dragging him down. The load must be removed before he can be asked to lift himself. He has no interest in increasing his crop yield if the profit all goes to the moneylender. It is not enough to lend him some seeds or even some money. It will all go the same way to the bottomless pit. Environments must be altered so that he can use both to his advantage. All plans must be prepared against this back-ground or will be doomed to failure like many of their predecessors. The funds required for rural rehabilitation fall under two principal heads—viz. those incurred direct by the State and not directly recoverable and those, in the nature of temporary accommodation which may ultimately be recovered. Under the first category will fall expenditure on such items as opening of training centres, Village Institutes, and Reclamation of New Land; Experiments and research will naturally fall under this. The liquidation of the heavy rural debt may possibly have to be included under this head, though it may be possible to recover a proportion in the distant future, after the cultivator has been really set on his legs. The expenditure under the second category will include long and short term loans.

The cultivator, to whatever class he belongs, will require long term loans for the proper equipment of his farm, *e.g.*, buildings, excavation of tanks and wells, purchase of machinery and live-stock. He will also occasionally require funds for clearing jungles and planting an orchard. These should be re-payable in five to ten years according to local conditions. In most cases, it might not be possible to get any other security than the articles purchased or the land when he possessed any. The majority of the existing cultivators will also require temporary accommodation for the purchase of seeds, manures, or even cattle food if he is to adopt the improved methods. It is hoped that the middle-class cultivator will be better equipped.

It is not enough to argue, as has been done occasionally in the past that these are not the functions of the Government or make financial assistance ineffective by framing inelastic rules regarding security and repayment. The world is changing rapidly and what was outside Government scope yesterday, is becoming its essential concern to-day. Whatever concerns the nations' welfare concerns the State; the sooner the full implication of this change in outlook is realised the better. Funds for all the above purpose must be ultimately found by the State. Those which

cannot be recovered will have to be treated as Capital Outlay—the interest of which will come in the form of greater prosperity of the country in which the Government will share. In some cases it may come in the direct form of enhanced rent. The loans will be recovered in the usual process.

After all, the real wealth of any country consists not of paper money, not even of the hoarded gold; these are merely the means of exchange. Real wealth consists in the country's natural resource in her agricultural and mineral wealth, in her forests and river systems and the most important—in her man-power. India lacks in none. It also depends on the industry the country has already built up, in her factories and manufactured goods, and in the available machineries. In these we are undoubtedly lagging behind many nations. But it has been conclusively demonstrated that there are industries which, with proper facilities cannot be built from within. India now produces about 80% of her requirements of textile, about half of glass and a considerable proportion of iron and paper. She is practically free of imported cement and matches; imported sugar is almost non-existent, most of the drugs are now being manufactured within the country. All these have been effected

through private enterprise against heavy odds mostly within the last quarter of a century. The war has also brought many new industries into existence which were formerly considered impossible of production in India. It has also shown that with necessary training Indian technicians and mechanics can hold their own against those of any other country. It is pertinent to remember that India is no longer a debtor country but has sufficient sterling balances to her credit, and which is still mounting, to pay for imported machinery for starting new industries. The war has taught us that when a Government backed by a nation is determined on a particular line of action, nothing can deflect it from its course till the end is reached ; financial considerations least of all. It is largely a question of men, material and above all of the determination. If the astronomical sums which are now being spent for war can be found, even in India, surely, the finance necessary to place India on her feet, in fact, to save her from extinction as a civilised country, can also be found. Famished as she is India will tighten her belt further if need be to save her from such a fate. What is wanted is the necessary will and determination on the part of the Government ; when it makes up its mind, men and money will both be forthcoming. Both exist.

The Bombay plan, Mr. M. N. Roy's plan sponsored by the Indian Federation of Labour, the Agricultural Development Scheme of the Imperial Council of Agricultural research have all made proposals which are no doubt receiving due consideration in the hands of responsible authorities. Each provincial Government is also preparing post-war development schemes with financial details. These give some indication as to how the Government mind is moving. But they are all agreed on the fundamental principle that money can and should be found. Sir M. Nanavati, a former Deputy Governor of the Reserve Bank has included a masterly memorandum in the "Indian Rural Problem" which deserves serious consideration from all planners. He makes the concrete proposal that half the profits of the Reserve Bank, which now all go to the Government of India, should be specifically ear-marked for rural agricultural development. This alone will make available over rupees one crore annually. A cess on important agricultural commodities is being gradually recognised as a legitimate source for raising funds for long range schemes particularly for research. The aggregate amount which can be thus raised will be quite large. For many of the schemes such as the starting of the village centres, the expenditure

can be spread over a number of years. As the centres prove their usefulness, public support will be forthcoming and with it funds will be easier to raise. Whatever the actual arrangements for financing long range rural development schemes, they must rest on a sound and permanent basis, all workers must know where they stand. The working of the I.C.A.R. has shown that all basic research and long range schemes can be best carried out under a central authority. There should, therefore, be a strong federal organisation at the centre, employing the highest scientific experts available in the land or even from outside where necessary and co-ordinating the work of the provinces.

The provinces should, however, be left free to work out the details in their own jurisdictions without interference from above. They would naturally be entitled to a share of the proceeds from the cess on commodities. The organisations working on each commodity should not work in water-tight compartments, as is the general tendency in most Government Departments, but under the Federal Organisation which should see that there is no unnecessary overlapping or duplication.

Co-operative Credit Department :—Closely connected with the question of agricultural finance

is that of the efficient use of the co-operative department for the purpose. Uptil now this has been practically the only organisation which has enabled the cultivator to obtain cheap and temporary credit. All schemes must carefully study how far the organisation can be further developed not only for credit but for other purposes as well. Co-operative action will be required not only in the field of credit but in various other spheres of activities for the prevention of wastage all round.

It is an irony of fate that the Indian who is a born co-operator, should have to be taught the necessity and importance of co-operation. The obvious example on a wide scale is the joint family system, a very natural form of co-operation still prevalent among the masses in rural India both Hindu and Muslim. The Panchayat System, extending beyond the family, still holds the field in many village activities throughout India, and may, with re-organisation yet prove the nucleus form which to build up again. The Hindu society itself, based on voluntary effort without State aid, is another outstanding example. But all these have deteriorated, with impact from the west, neither retaining the good points of the orient, nor imbibing those of the occident. We have now to turn to the West again for their rehabilitation, with better organi-

sation and more efficiency, two qualities which have enabled Europe to conquer the world. India will have enough reason to be grateful to the west if she would bequeath to India this legacy alone; legacy of organised efficiency.

The attention of Government was seriously drawn to the condition of the peasants during the recurring famines. On these occasions Government issued tackavies or loans on easy terms to enable the cultivators to tide over the temporary difficulty or to obtain seed, cattle etc., which might have been destroyed. Though interest was low the terms were rather inelastic and the loans were not popular. The bulk of the peasantry preferred the money lender, where available. Early in the present century the attention of the Government was drawn to the co-operative movement and it was felt that this would provide a more effective method of assisting the cultivator in getting him out of the clutches of the money lender.

The co-operative department in its present form came into existence with the passing of the Co-operative Act of 1904. The co-operative organisation has been variously defined by many eminent authorities, but the most expressive and pithy is perhaps that of Sir Horace Plunkett, the father of the movement in Ireland, that "co-ope-

ation is self-help made effective by organisation." I am afraid, the greatest weakness of the movement in India has been that this fundamental fact has been overlooked, that in the ultimate it is really a form of self-help. No human organisation however effective, can help any one who will not help himself. The organisation has depended too much on spoon feeding, on Government initiative and supervision and self-help has gradually receded into the background. And for this the public is no less responsible than the officials. The fate of the department has been perhaps even worse than that of its twin, the agricultural department, which has at least to its credit the results of laborious and painstaking research in various spheres. Efforts for utilising the benefits of the department, on the usual lines have not been lacking. There have been various committees, conferences, and reports and legislations, but without commensurate results. The causes are perhaps the same. The method of approach has been too rigid; there has not been enough life behind the movement. And a curious phenomenon: the two departments, which between them touch the economic life of the villager almost in every aspect, have worked rarely in unison. I remember my feeling of astonishment, early in my career, at finding even

the responsible officers more concerned with questions of demarcation of activity between the two departments and with official etiquette rather than with the more vital questions affecting the welfare of the individuals primarily concerned. There has been considerable improvement since then; but these two departments should work in much closer collaboration than has been the case in the past. In fact, all departments working for village welfare should be co-ordinated and may be placed under one head, such as a Development Commissioner. The villager does not appreciate too frequent visits by different officials.

The object of the Co-operative Act when passed in 1904, was to encourage thrift, self-help and co-operation amongst agriculturists, artisans and persons of limited means. Nothing could be more laudable. In the beginning however, only credit societies were organised. A further Act was passed in 1912, widening the scope of activities, which resulted in an increase of such societies, and in the starting of such institutions as Central Banks, supervising unions etc. With the inauguration of the constitutional reforms of 1919, the administration of the department became a transferred subject, and legislations were gradually enacted in different provinces rectifying

the defects found in the actual working, and leading to further expansion of its activities. With the introduction of Provincial Autonomy followed further legislation and expansion. All these however were slow and did not keep pace with actual requirements.

It was gradually realised that the scope of activities should be widened beyond alleviating indebtedness and various other forms of societies followed the purely credit societies. An enumeration of some of these will indicate that efforts have not been lacking in linking up the department with every form of village-life. Credit societies, purchase and sale societies, insurance societies, better-living societies, irrigation societies, crop-production societies, colonisation societies, milk unions, crop insurance and cattle insurance societies are all functioning in one place or another. The very list indicates that there is hardly any phase of rural life which could not be improved by co-operation. But like improved seeds they have hardly touched the fringe. Space does not permit discussion of all these in detail. The question of co-operative marketing will however, be discussed in the next chapter.

Many commercial banks have come into existence in rural areas during recent years which can also play a large part in the development of

rural life. The city banks in the past have been naturally shy in advancing loans on crop hypothecation. But the local banks now coming into existence in rural areas are in a better position to assess the needs as well as the value of the security offered. Run on business principles, they should be of more practical and permanent assistance to the villagers than Government help which always involves lot of red tape and is apt to cramp local efforts. If a number of progressive farmers in any locality can join, start such banks themselves and prove their business capacity as well as their integrity, they would be able to attract deposits from urban areas. The opportunity of honest and efficient men in all such spheres will be considerable.

The Reserve Bank has also a very important role to play in this connection. Being the central banking authority in the country, it is intimately connected with all organisation supplying agricultural finance. It is required by the Act of which it is the creation to maintain an expert staff to study all questions of agricultural credit. The staff is available for consultation by local Governments as well as other banking organisations, including the co-operative department. It should be able to render more assistance to private banks for financing agricultural improvement. It is

also hoped that the Land Mortgage Banks may also be utilised to a larger extent for the benefit of the cultivators than has been the case in the past.

CHAPTER IX

AGRICULTURAL MARKETING : CO-OPERATION IN AGRICULTURE

In hardly any other sphere of his activity is the illiterate cultivator perhaps placed at a greater disadvantage than in the disposal of his surplus produce, meagre as it is ; and in no other sphere is he deprived of his legitimate dues to the same extent. The little that he gathers on harvest under adverse conditions has to pass through various sieves before reaching the consumer who is the ultimate purchaser.

Human society has long passed the stage when one could produce all that he consumed, or consume all that he produced. There must be exchange and there must be two parties in any scheme of barter, which are : the producer at one, and the consumer at the other end. The ideal is, as is still not uncommon in the village for certain commodities, for the producer and consumer to deal direct. The time has almost passed when exchange was effected in kind, as is still occasionally the case in some rural areas, the staple crop of the locality providing the main vehicle of exchange. Under present complicated social conditions such opportunities are rare, and

hence the evolution of the ubiquitous middleman, or in more dignified terms the commercial man who now exercises a dominating influence in the body politics of most countries.

Agricultural produce, even of a single farmer, cover a wide range of commodities harvested over different seasons. The period of production and consequently of sale of each is short. Some of the products are perishable and have to be disposed of within a short period of production; a few hours in the case of milk, a few days in the case of fruits and vegetables and a year utmost in the case of grains. Storage in many cases might lead to deterioration and is in any case beyond the means of the ordinary cultivator. As prices of most commodities are determined by the condition of each harvest, storage beyond one season is highly speculative. Production is on too large a scale and prices of many commodities are determined not by local production but by world or All-India conditions of which the simple villager has no idea, *e.g.*, cotton, sugar, jute, wheat and even paddy. The urban population being the main consumer the question of transport is a vital factor. The individual cultivator has only a small surplus and cannot proceed beyond the village or the nearest market for its disposal except at great inconvenience. He is

compelled per force to accept what price can be obtained locally. As a rule his financial embarrassment makes a sale immediately on harvest imperative. Not infrequently he purchases his salt or cloth from the proceeds of his sale at the same market rarely carrying any cash home. In many cases the crop is mortgaged even before harvest, when he has no other alternative but to sell it to the money-lender, mostly at the latter's own price, retaining the bare requirement for his own consumption. If all his expenses were taken into account and paid for at market price, the cultivator would frequently be found to be selling his crop even below the cost of production. It is no use asking him to increase his crop under these conditions. He would only increase his loss by doing so. The cultivator must be guaranteed a fair price for his produce. The present margin, as we have already seen, hardly leaves him a bare subsistence.

For various crops, after treatment or "processing" is necessary before it is fit for human consumption. Wheat must be converted into flour, paddy into rice, sugarcane into sugar or jaggery and mustard into oil before sale to the consumer. Some of these the cultivator may do himself or they must pass through a factory.

For all this, the middleman is a necessity.

He collects the small quantities from each individual cultivator, provides the necessary transport for carrying it to the nearest town or market and even provides storage when necessary. Being in touch with the market he can sell at more remunerative prices than the ordinary villager. For milling purposes standard and graded varieties are always in greater demand than mixed lots, and the middleman can advise the cultivator what to grow and to classify the produce in accordance with the demand. He can thus help in raising the standard of cultivation in any particular locality. A middleman of this type is not only legitimate but an asset instead of being the liability that he frequently is. The type unfortunately is very rare, practically non-existent. The main object of the average middleman is to extort the maximum profit in any deal, both from the producer and the consumer. Not only this, but there has developed, as in land tenure, a long chain of middlemen, each bent on extracting his share, and adding to the cost of an article, before a commodity completes its tedious journey from the producer to the consumer's kitchen. Not infrequently the producer does not receive even half the price paid by the consumer even allowing for cost of transport. As, however, elimination of the middlemen is not feasible, the next best step

is the elimination of as many links in the chain as possible. The most practical course is therefore, to link up the cultivator and the townsmen through co-operative stores at both ends, the producer society in the village and the consumer stores in the town.

The efforts of the co-operative department in this direction has already been briefly described. The development of such societies in India has been very poor. Their number in 1941 was only 4,577 and formed only 4.4% of the total number of co-operative societies. At the end of 1941-42, there was in Madras, which has been a pioneer in this direction 185 marketing societies with a membership of about 55 thousand which issue loan to the value of Rs. 147 lakhs and sold produce worth Rs. 75 lakhs during the year. The most successful single scheme launched so far is perhaps the sale of sugar-cane in U.P. on co-operative basis, under the provision of the United Provinces Sugar Factories Control Act passed in 1938. Under the provision of the Act, the area from which sugar-cane is to be drawn in a year is divided into reserved and assigned areas. In the former, the cane can be purchased by the factories only direct from the cultivators or through the sugar-cane growers' co-operative societies. No middlemen are allowed to func-

tion ; nor is the factory allowed to pay a higher price to individual grower than to the societies, which must be paid the minimum price fixed by the Government. Direct purchase from the members of a society is also prohibited. All these points, trivial as they might appear, are essential to the successful working of such a scheme. As a result of the operation of the Act, the development of the co-operative marketing of sugar-cane in U.P. has been very rapid and the quantity of sugar-cane handled by them has considerably increased in recent years. In 1939-40, 839 marketing societies with a membership of 561,540 persons belonging to 18,599 villages supplied 13 crores of maunds of sugar-cane to factories, which constituted about 80% of the total requirements. This was exceeded in the following year. The result is that the growers, assured of a minimum price, are no longer at the mercy of the factories or of middlemen and receives a fair return for his labour. This demonstrates, what a combination of efforts, Government and non-official, producers and consumers, working under supervision can achieve in improving the lot of the cultivators even under present conditions.

In Bengal, the earliest large scale co-operative marketing effort was perhaps the Calcutta Co-operative Milk Supply Society's Union. This

was organised in 1918-19 but appears to have stagnated after a few year's successful working. It was later re-organised but the quantity of milk handled since 1936-37 appears to be stationary. Better progress appears to have been made with paddy sale societies some of whom possess their own rice mills.

Co-operation in marketing has in a few cases led to co-operation in wider spheres. In Surat, the cotton press-owners combined to raise the rates for pressing cotton and refused to work for the cotton sale societies. The societies in the area replied by starting their own presses. The required capital was subscribed by the societies and the cottongrowers who must have been fairly well-to-do, found the money. In Madras, the Kodur Fruit Growers' Co-operative Societies was formed in 1937 with the object not only of assisting the growers financially and in marketing the produce, but to teach them improved methods of cultivation of fruits and supply seed material, manure etc. In 1940-41, it sold fruits to the value of Rs. 1,63,408/-. The production of most fruits is on a limited scale, consumers live mostly in the cities and the sale can thus be most conveniently handled by co-operative organisations. Three things are essential for the successful working of such societies. A homogenous and

active directorate, a competent and honest manager and adequate supervision. The failure of many of the co-operative societies in India has been due to the absence of one or more of the above factors. Another serious drawback has been the action of backsliders, who sell their produce to the middlemen at the least temptation, giving them a footing; or in the unwillingness of the majority to join in the movement. A rich middleman can temporarily offer higher prices to kill the movement. Such temptations must be resisted, by persuasion—if possible—by legislation if necessary, as in the case of the U. P. Sugar Factory Act.

The elimination of the middleman is only the first step towards a proper organisation of marketing. But there are other drawbacks in the present system which should be removed by suitable co-operative effort and other methods as required. Adulteration is a factor for which the producer as well as the consumer are equally responsible. Those who practise this short-sighted policy of selling adulterated product forget that in the long run, the consumer or the wholesale purchaser will pay the price of the worst and not of the best sample of an adulterated product; it is the honest man who suffers. Grading, classification and standardisation are

almost unknown in the Indian village. But for the produce which have to be converted into manufactured articles, a uniform product is an important factor. A miller will pay higher price for a pure lot even if of inferior quality, than for a mixed sample. A particular locality may very often get a reputation for superior quality and get a higher price for its product if the produce is uniform and properly graded. Some articles may be partially processed in the village, effecting considerable saving in freight and wastage. A considerable proportion of fruits which frequently rot and is thrown away may be made into syrups or jams. Milk may be converted into cream and sent to towns rather than sold locally at nominal prices. There are in Assam places where milk is sold at $\frac{1}{2}$ anna per seer whereas it can hardly be obtained even at -4/- per seer in a small town within 100 miles, a condition of things inconceivable in Western countries. One serious factor in raising the cost of articles in India is the very inadequate transport facilities and the high freightage for most articles. For a country of the size of India, the railway mileage is very inadequate and many of the railways were built for strategic reasons rather than for the movement of civilian traffic. The magnificent river highways of India have not been exploited to

anything like their maximum capacity. Both railway and river transport facilities should be developed to enable a larger flow of agricultural produce from the village to the city. It is absurd that Rangoon potatoes could be obtained cheaper in the Calcutta market than Shillong potatoes although the cost at source of the former was higher. It is nothing short of disgrace that even Californian oranges can be obtained cheaper in some Indian markets than the Indian orange which grows in abundance in various parts. The problem of regulated market is one which should be taken up seriously. The erection of the licensed ware houses where cultivators could store their sample produce, would not only facilitate better marketing but enable the cultivator to draw advances on the security of the produce and to wait for better prices instead of being forced to sell immediately after harvest. All over India, there are numerous fairs, markets and "hats" where the bulk of the village produce is sold. A charge is levied in each place most of which goes to the pockets of the owner and not utilised for the legitimate purpose of providing facilities for producers or consumers. If these were properly organised and storage accommodation provided for non-perishable product, considerable improvement might be effected imme-

diately. The profits made in some livestock fairs are enormous. The expenditure of the major portion of these profits for providing improved facilities in the market should be compulsory. There is no standard weight in the markets and this proves very often a source of puzzle and loss to the illiterate cultivator. The Standard of Weights Act passed by the Government of India in 1939 has fixed standards of weights. It is now for the Provincial Governments to adopt them by enacting proper legislation and thus make them compulsory in all markets in the Province. Under the agricultural produce Act provision has been made for the grading and marketing of a number of agricultural commodities under what is called the AGMARK Scheme. The main features of this scheme are :—

- (a) That the commodities should be graded according to the specifications prescribed under the Act.
- (b) That the grader must observe the prescribed rules and abide by the prescribed conditions.
- (c) That the grader must obtain a certificate of authorisation from the Agricultural Marketing Adviser before he can use the AGMARK label on any produce.

Arrangements have been made to give certificates to commodities which are so graded to enable them to be sold under the AGMARK label.

Co-operation in Agriculture: Improvement in rural conditions can be only effected by ensuring that the cultivator is assured of full enjoyment of the benefits of his labour. This requires not only increased productivity and economic disposal of his surplus produce, but also the elimination of all waste during the process. The amount of waste involved in the cultivator's singly working uneconomic units is simply surprising. It has been long recognised in other countries and is becoming so in India that agricultural efficiency cannot be achieved by working tiny plots. The following remarks of Dr. Burns, till recently the Commissioner of Agriculture for India, is pertinent and must be noted by all planners.

"If at the moment we are not prepared to accept the implication that modern technological methods demand the increase of size of productive units, we must at least admit that technological improvements are impossible without at least collective action by aggregation of units. This point is so clear that it must be made an essential part of any important drive. While proceeding with all necessary caution we must not be afraid of invoking a certain degree of compulsion to ensure such collective action. Persuasion by itself is not enough."

Any scheme which ignores these cryptic remarks of the shrewd Caledonian, will go the

same way as many of its predecessors. And with right spirit, determination, and right lead this need not be so difficult of achievement nor so revolutionary as it may sound. Our cultivators are not unaccustomed to combined action. Pasturage has been common in the villages for ages. In many localities the cattle themselves are placed in charge of a few boys who are provided by the villagers in rotation. In other places when particular fields, require immediate ploughing which is beyond the means of the owner, his neighbours combine in ploughing them up for him in a day receiving similar service in their turn. Thrashing by bullocks requiring the services of several pairs is almost invariably done in combination. Fishing in combined groups is quite a common practice. What is necessary is a guiding hand for harnessing and organising this spirit for extension into wider spheres. An example, within the writer's experience in Assam, as to what can be achieved on a small scale, by such combination even under existing conditions, may not be uninteresting. Spring rice is grown in many parts of Bengal and Assam on the very low lying land by irrigation. The water is required in January and February for sowing, and again in March and April before ripening. The water available is naturally scarce, the only avail-

able source being the existing beels round which most of the rice is sown as it is not possible to carry the water very far, nor is a large quantity available. This is practically the limiting factor in further extension of area. The produce however comes very handy in those areas where no winter crop can be grown, and there is keen desire for extension. Experiments were carried out with a small power-driven portable irrigation set for extending facilities for irrigation, by carrying water from rivers or large beels. These having proved successful demonstrations were conducted on the cultivators' fields to supply water by working such sets. The expenditure was met from the funds provided by the Government of India for rural uplift in 1935, each set then costing about Rs. 2,000/-. Irrigation had to be done in combination. The villagers provided the casual labour and accommodation for the technical staff. Part of the cost was subsequently recovered from the cultivators after harvest, partly in kind, and partly in cash. The work became highly popular and is now one of the main planks in the Grow-More-Food Campaign in Assam. Its extension is only limited by the difficulty in obtaining enough sets under present conditions, and by the funds which might be available. The project was only made possible

by the combined efforts of the cultivators, the leaders of the villages who were persuaded to take an interest in the scheme, and in their turn induce the cultivators to join whole-heartedly, and of the officers of the Agriculture Department. This small experiment shows what can be achieved through combination, use of small power machinery and irrigation in the elimination of waste and increase of productivity. The progressive educated farmer will find his opportunities and should demonstrate his usefulness in the new order of things by initiating and organising such schemes. In organising collective work his abilities and training should find full play.

N.B.—Numerous examples of wastage due to working singly may be given. The average person has little idea of the amount of rich top soil annually washed into the sea by Erosion. There is waste of man power and waste of animal products. Power driven machinery can only be used collectively on large holdings. Irrigation channels must cover the whole village. Remedial measure against insects and fungous pests can only be effective in combination. It is no use destroying them in one's field, if they can be infested again from his neighbour's plot. Hedges for crop protection can be only economically built around compact blocks. Prevention of indiscriminate breeding of cattle in the common pasture, preventive measures against epidemics and contagious disease of cattle, and even of human beings, can only be effective with concerted action.

CHAPTER X

COLLECTIVE FARMING

All that has gone before leads to the natural enquiry whether Collective Farming as practised in Russia, the country which is now holding the eye of the world, can be adopted in India and if so to what extent and with what modifications. There are striking similarities between the conditions of the peasantry in India and in Tsarist Russia : intense pressure of population in rural areas with little or no industrialisation ; a half-starved illiterate peasantry on the one side and a fairly opulent higher class on the other : the size of the country and of the problem almost equally vast. If the Soviet has been able to effect a revolutionary transformation in a quarter of century, the question is not only pertinent but one of supreme importance for us. It behoves every one of us to examine the question without passion or prejudice.

Unfortunately, very few of us have any direct knowledge as to what collectivisation in Russia actually means, the stages through which it passed and its actual achievements. In theory, it is the pooling of the common resources of the

whole village for combined action for the good of the community. The success or otherwise of all such schemes depends, however, more on the detailed working rather than on their theoretical excellence. There is hardly any other subject on which world opinion is more sharply divided than on Russia. The evidence even of the recent eye witnesses, as far as allowed to appear, are contradictory. It is difficult, therefore, for those who had no opportunity of visiting the country to visualise exact conditions. I shall, therefore, have to rely on whatever written evidence may be available, mostly Russian, for a description of the system, and I make no apology for the rather lengthy quotations with which this chapter will be interspersed.

Immediately after coming to power, the Soviet Government nationalised over 370,000,000 acres of land (not all of which were apparently arable) belonging to the Tsar, his family, landlords, and monasteries and transferred these to the peasantry in addition to what they already held. It may be noted by the way that this addition in itself exceeded the total sown area in the whole of India. As in India, these were divided into small holdings.

“The division into small holdings was not, however, conducive to the introduction of trac-

tors, harvester-combines, and other complex agricultural machinery. Nor did the small size of the farm offer the necessary opportunity for the application of scientific methods of farming or for proper crop rotation. The boundaries between the individual peasant holdings were marked by narrow strips of land, overgrown with weeds which, affected the neighbouring plots as well. Owing to the extremely low level of productivity of labour in the small peasant farm, the peasants had but very little grain surpluses left for sale over and above the amount they needed for their own consumption."

One wonders whether one is reading about the Indian or Russian peasants. The same authority proceeds: "At that time the Soviet State, in order to provide for the needs of the urban population, had to purchase a considerable portion of the grain from the rich farmer the Kulaks—who owned large plots of land. But the Kulaks were hostile to the new socialistic order and did everything to disrupt the Government grain purchases and to cause famine in the country.

The country was faced with the alternative: either to introduce large scale capitalist farming—which would have entailed the ruin of the bulk of the peasantry... or to take the road of amal-

gamating the small peasant farms into large-scale socialist farms, into Kolkhozes—collective farms capable of using tractors and other modern machines. Naturally the Soviet State chose the "second" road—that of developing agriculture along the lines of collective farming.¹

Although nationalisation of land was effected simultaneously with Soviet assumption of power, collectivisation came more slowly ; the main drive did not begin till 1929 with the first five year plan. The original plan was to divide the land into large State farms "Sovkhozes", where mechanised agriculture could be carried on a large-scale, the peasant working mostly as hired labour as in factories. The collectives were to act as midway houses from individual to State ownership or complete communisation and accustom the peasantry to combined work. In the result, however, the feeling of individual proprietorship, the attachment of the peasant to his home plot, and other causes proved too strong, and the Collective Farms, which meant joint group ownership in distinctive to either individual or communal ownership held the ground. "The State Farms-Sovkhoz equipped with modern machinery and rationalised with the latest methods of Agronomy

¹ K. Borin, Member of the Supreme Soviet (Order of Lenin) Soviet Russia, edited by K. S. Hirlekar. p. 197.

and scientific animal husbandry, showed the peasantry, the advantages of large-scale socialised agriculture. Thereby they played a large part in collectivisation, the re-organisation of peasant farming on modern lines..... Besides producing foodstuff for the urban industrial centres—grain, meat, milk, butter, fruits, and vegetable the State Farm supply raw materials for industries—cotton-flax, wool, sugar beet, vegetables, and essential oils.....

“The State Farms run various schools and study course to train skilled personnel not only for themselves, but for the Kolkhoz farms too.”

“It will be seen that the State Farms are being used as model farms, for Research Stations, for training staff, and supplying food, as well as raw materials for the urban areas, whose main function was industrialising the country, and who in their turn supplied the machinery for mechanising agriculture.”¹

All this however was not a smooth process of gradual and peaceful transformation. It met with violent opposition from the Kulaks as well as from a considerable section of peasants themselves, who did not appreciate the idea of being deprived of their individual patrimony in favour

¹ P. Lobanov, Peoples Commissar of State Farms of the U.S.S.R. p. 50 Kolkhoz.

of collectivisation. There was sabotage, destruction of crops, live-stock and property. The State, and the bulk of the peasantry, retaliated however with stronger measures.

“Solid collectivisation was not just a peaceful process of the overwhelming bulk of the peasantry simply joining the collective farms but was a struggle of the peasant masses against the Kulaks. Solid collectivisation meant that all the land of the village in which collective farm was formed passed into the hands of the collective farm. But a considerable portion of this land was held by the Kulaks; and therefore the peasants would expropriate driving them from the land, dispossessing them of their cattle and machinery, and demanding their arrest and eviction from the district by the Soviet authorities. Solid collectivisation therefore meant, the elimination of the Kulaks. This was a policy of the elimination of the Kulaks on the basis of solid collectivisation.”¹

The number of Kulaks so eliminated has been variously estimated at from four to seven millions. It would appear, however, that they were ultimately settled in the less favoured regions, the prairies, which could be brought under

¹ Authorised History of the Soviet Union. P. 322.

cultivation only through mechnisation and were waiting to be developed. By adding this to the cultivated area and increasing food production the process also helped in the rapid industrialisation by providing more food for the industrial urban population. During the period of transformation, due to these quarrels there was destruction not only of property and crops, but what was even more difficult to replace, a considerable proportion of the live-stock. This seriously hampered cultivation and left its mark on agriculture for nearly a decade. As can be easily imagined there was, under the circumstances, considerable dislocation of agricultural economy and consequent distress to Kulaks and peasants alike during the process.

The actual process of operating the collective farms is described as follows :

“The collective farm rules definitely specify that on entering a Kolkhoz, the peasant must hand over the land he has been using and also his draft animals and agricultural equipment. Cows, domestic animals, and poultry are not subject to socialisation, nor is the peasant's personal property. The public buildings—stables and sheds for its live-stocks and poultry granaries, clubs, etc. are in the collective use of the farm. In addition, every Kolkhoz household is allotted a

plot of land for personal use, where a truck garden orchard can be cultivated for the personal use of the household.....

"Payment is made on the basis of distribution of profits according to the workday unit,¹ which is described as equivalent of the average amount of work that can be performed by collective farm worker in one working day as fixed by the standard quota set for each type of work."² This standard must be very difficult to set, and a rather uncertain factor. "The division is partly in goods and partly in money obtained by the collectives for the sale of its pre-share of the products which it receives. Before the sharing out takes place, the collective must pay its taxes, pay the local stateowned machine and tractor stations (M.T.S.) for use of machinery hired during the year, and set aside a certain part of the income for the next year's seed fund, fodder etc.; and the capital development of the farm itself."³

Simultaneously with the drive for collectivisation and undoubtedly at the same tempo were proceeding two other state drives; to manufacture and provide the necessary machinery for large-

¹ This was a serious departure from the original plan.

² F. Clemenco, Chairman of the Etalin Collective Farm, Member of the Supreme Soviet, p. 10, *Kolkhoz*.

³ P. 125, *Russia without illusions*.—Sloan.

scale farming and secondly intensive scientific research for improving agricultural technique..

At the end of 1938, 483,000 harvester combines, 195,800 trucks, hundreds of thousands of tractor drawn ploughs, seeders, cultivators threshers and varieties of other up-to-date agricultural machines were employed in the soviet fields.

There were over 14,000 scientists at work in Agricultural Research Stations. There were 90 Agricultural Research Institutes, 367 Experimental Stations and 507 Experimental Farms with numerous branches. There were about 20 thousand small but efficient laboratories functioning in the collective farms.

Let us see what all this achieved.

The Soviet Food Industry now ranks with the largest in the world. In 1938 its output amounted to six times the total of the food industry of Tsarist Russia in 1913, exactly a quarter of a century earlier. The Soviet Union now holds the first place in the output of sugar and the second place in the output of fish. In the same year the cotton crop amounted to 2,690,000 tons against the pre-revolution of 7,10,000 tons and is now independant of imported cotton. There has been similar stimulated production of other major crops. There has been

also a corresponding progress in the animal industry, in fact, in all branches of agriculture.

Not only in the sphere of increased productivity only, but in social spheres as well, the collective farms are reported to have achieved a transformation in the peasant life. The collective farms have their own schools, clubs, libraries and picture-houses; amenities which were formerly available only to the opulent section of the urban population. They are also reported to have infused public spirit among the peasants. This should convey a very important lesson to India, as it is to the absence of the civic spirit that the failure of many of our self-governing institutions may be traced.

It would not be unfair to present the obverse picture as depicted by a critic.

"The peasant proletariat was no better situated than the work dictator. The death sentence for theft applied equally to theft in the fields. A starving individual who had gleaned a few ears of wheat or stolen a few vegetables from the products of his own labour would be eligible for the capital sentence. There was subsequently a similar decree of the Central Committee against vague offences like sabotage in agricultural works and intent to damage in tillage and sowing.

In 1931, the number of functionaries in the

new socialistic sector was reckoned more than 29,00,000 administrators, managers, controllers, brigadiers, commissioners, and diverse employees. The mujiks, divided into brigades to regulate their daily tasks, had to support whole legions of parasites who encroached on their personal share, and to bear the enormous general expense which burdened the net costs and were responsible for budget deficits.

In proportion as collectivisation extended, famine became rapidly accentuated. Tractors transformed after a short while into scrap iron, mechanical instruments left to rust in the open, did not balance a diminution in the flock or the abandonment or destruction of implements. All the orders, counter-orders and decrees from Moscow could not save wheat from rotting, potatoes from frost bite or weeds from springing up, where there was a lack of elementary precautions and of any stimulus to work. Losses and waste took an extravagant proportion. Neither the mobilisation of workmen and students and school children for the sowings and harvestings, nor the mobilisation of young communists for wood felling, of doctors, scientists and artists each in turn organised into shock-brigades—could take the place of the goodwill or the interest, of the cultivators, any more than the mobilisation

of the peasants for heavy industry could answer the needs of modern mechanisation.¹

It can readily be understood that there were earnest and half-hearted workers ; good and inefficient leadership in the Kolkhoz. The human factor played as major a part as in all spheres of human activity in the making or marring of a successful collective. The system by itself is not fool-proof.

It would appear however, that collectivisation was yet in 1938 in a transitional stage and had not quite reached its final form. In spite of the elaborate rules and the continuous and intensive party supervision, the peasants themselves had not a very clear conception of their exact position and responsibilities.

De Warriner, a Cambridge professor of Economics and an apparently dispassionate observer makes the following remarks :

"As an institution, the Kolkhoz is hard to classify. Usually it is the former peasant village with 500 or more inhabitants and one or two thousand Hectares. It is not in any intelligible sense co-operative nor is it fully socialistic. It is difficult to understand how the land is owned ; and in the minds of my informants it certainly

¹ Stalin—Boris Souvarine, p. 527.

was not clear. Recently, a new law had been passed which gives the land as collective property to the collective farm (that is to the former peasant village, minus the intransigents) as a perpetual lease. This appears to mean that the collectives cannot forfeit the land to the state nor can the collectives sell the lands. Thus the village owns jointly what it previously owned as individuals. Live-stock and small machineries are the property of the collective farms, as are also the buildings, usually old buildings of the land-owners' estate with addition and improvements, but much live-stock is individual property; each peasant has the right to keep a cow, a pig or two, poultry and a garden. On most of the farms visited, the individual cow outnumbered the collective cattle."¹

The peasant is left in possession of his home stead, live-stock, fruits and vegetable patch. Payment is made, not to each according to his need, the fundamental basis of socialism, but in accordance with the work done, as in most capitalistic countries. Skilled workers, including officials receive higher wages. All this undoubtedly led to greater efficiency, but can hardly be called socialism, in the strict sense.

A few basic facts emerge from the above

¹ Economics of Peasant Farming—D. Warriner, p. 181.

study. Firstly, the collective movement was as much a political as an agricultural movement one of the principal objectives being the liquidation of the Kulaks who were obstructing the Soviet administration in various spheres. Secondly, there were large unsettled areas situated in rather unfavourable regions awaiting development, which could only be brought under cultivation by mechanised agriculture and required immigrants. This was settled with the expropriated Kulaks and assisted in increasing the food production of the country.

Thirdly, there was an urgent need to provide food for urban workers, removed from several areas and employed mainly in industrial work. This eased the pressure on agricultural land and the work of the displaced people could only be made up by the use of machinery. On the one hand this necessitated the mechanisation of cultivation and as a corollary made large-scale farming inevitable; resulting in increased efficiency all round. Fourthly, simultaneously with such collectivisation there was State production of agricultural machineries on a vast and rapid scale (occasionally resulting in the manufacture of even inefficient machinery in the initial stages) and intensive research work for improving agricultural technique.

Fifthly, there was violent opposition to the original scheme, not only on the part of the Kulaks, but also on that of a considerable section of the peasantry who were opposed to being deprived of their individual rights. In deference to this prejudice, the scheme was partly modified, allowing them to retain part of their possession. The violence of the Kulaks was met with even greater violence. There was destruction of property and live-stock on a large-scale, expropriation and severe misery during the transitional period.

The present transformation in the state of peasantry is not however the result of collectivisation alone. There was intense research for improving agricultural technique and there was simultaneous industrialisation, relieving the pressure of population in rural areas. The cultivated acreage in Russia *per capita* is two acres against that of little over half an acre in India. The chief merit of collectivisation undoubtedly is that it does permit a more general application of the result of scientific research and prevents waste. But the question yet remains whether the conditions which made this possible and perhaps necessary in Russia are present in India. Its successful execution postulates intense drive from the top supported by similar pressure from

below. There must also be room for providing the displaced population. Will, India, with her strong sense of individualism, and the peasant's love for his home, accept the drab regimentation of a purely socialistic life or will she prefer co-operative action, the individual retaining his own rights. The choice will be between collective and co-operative farming. The present Zamindari system with its concomitant the present fragmented farming, may be regarded as doomed.

In a recent speech Mr. L. K. Elmhirst who has done a good deal of reconstruction work, stated that the Soviet ambassador M. Maiskey told him what a vast waste of time, money and personnel was involved because Russia was working under pressure in midst of a revolution: heads of villages had to be marched off to the cold steppes of Siberia, millions of people were starved to death.

India should learn from Russia's experience, and there is no reason why India should follow Russia even in her miseries. A start may be made immediately with co-operative farming with consolidation of holding wherever possible. The Indian cultivator is not unfamiliar with this system. Simultaneous progress must also be made for starting new industries. Where large areas are available experiments may also be made

in collective farming with newly settled people. The three processes, co-operative farming in existing villages, collective farming in new areas, with the creation of new industries to absorb the displaced population should proceed simultaneously.

Whichever way one's inclination may lie, the system which has achieved such remarkable results within a comparatively short period deserves close and careful study on the part of every lover of India. It is essential to discover to what extent collective farming can be adapted to Indian conditions, even if it may not be copied wholesale; this may not be found to be necessary. The whole system is, however, so complicated and has been so frequently modified with experience even in Russia, to suit her peculiar conditions, that no concrete plan is practicable without an examination on the spot. India could hardly do better than send a strong delegation of Indian experts both agriculturists and economists, to Russia on whose report a workable scheme could be prepared. The problem is as much ideological as economic. No plan of post-war development in India could ignore the following significant remarks of the late Sir Daniel Hall, the foremost agricultural authority of the British Empire in his time :

"What is, however worthy of consideration, is the fact that the men who planned the Soviet Organisation, men lacking neither in knowledge of the material world nor a perception of affairs did deliberately abandon the peasant structure of Agriculture to which they had been habituated, and have attempted to replace it by a large-scale exploitation of the land, using all the resources of science and machinery. The motive was to obtain increased production, more food for a vast population that was insufficiently fed and liable to famine, and yet at the same time to liberate more labour for other industries, whereby the total divisible wealth of the population would be increased."

CHAPTER XI

SUMMARY AND CONCLUSION

An attempt has been made in the previous pages to trace the causes which have led to the present stagnation in India's agricultural conditions. With a fertile soil and richly endowed with most natural resources, India can neither feed nor clothe her population adequately. Starvation and famines are common occurrences. The cultivators are groaning under a heavy debt. They cannot produce enough nor get economic prices for what they produce. The most elementary needs of life are lacking in the villages. Various Government efforts for ameliorating the conditions extending over nearly a half-a-century have not achieved the results aimed at. The efforts have been unco-ordinated, local leadership has not been secured and the most important factor, that of the human operator ignored. Rural India suffers in the lack of natural leadership. The educated middle-class has largely migrated to the towns, without finding adequate avenues of employment. Business, and professions are overcrowded. This has left India's most important industry, agriculture, in the hands of the ignorant and the inefficient, leading to further deteriora-

tion. Recent scientific discoveries have placed new weapons in the hands of cultivators to increase the productivity of the land. But they must be trained to take advantage of them. This requires that an efficient educated class should be settled on the land. A large number of educated men trained in various activities will be soon discharged from the various war organisations both military and civil. They will be eminently fitted to take leadership in various spheres and now is the opportune moment to settle a section of them on the land. Simultaneously the conditions in the villages should be improved so that they may be fit for them to live. Under present conditions Indian villages do not provide a suitable home for many. Rural India must be rejuvenated so that she may provide ordinary amenities for the educated class. They, in their turn, must merge themselves among the rural population and the amenities must be available to all and not restricted to few. Prosperity is indivisible. The educated community will lose their utility, if they remain segregated.

Until these conditions are achieved there is still considerable room for the educated unemployed to go back to villages and make the best of what is already available. Uncultivated land can still be procured and living is possible even

ter present conditions. In fact they can improve many of the conditions by their own effort. This will help hastening the goal.

From the technical point the greatest drawback of the present system of agriculture is the stage involved in working fragmented, uneconomic holdings. This has resulted in loss in every operation from ploughing till the disposal of the produce.

This again is largely due to the present system of land tenure. This should be abolished and replaced by a system which will restore the land to the cultivators, and allow an economic area for each family. Present pressure on the land is excessive; there is no equilibrium between agriculture and industry. This must be reduced and every family provided with economic units to work. This will displace a large number from the land for whom new avenues should be provided by opening new industries not only in the cities but also in rural areas. The natural resources required for starting many new industries already exist; there is no dearth of man power; and India is no longer a debtor country. What is wanted is determination to avail of the present opportunity.

Model villages should be started in as many places as possible, which will also serve as train-

ing centres for rural India. Training should be imparted in all spheres of life and the training centres must be adequately equipped and staffed for the purpose. All problems affecting rural life must be attacked simultaneously and the work co-ordinated under a single organisation. Agriculture, industry, education, medical work must be treated as links in a single chain to drag India out of the present morass. If one link snaps, the whole chain will break. No uplift is possible without a combined and sustained effort in which the Government as well as the public must pull their whole weight. Plans should therefore be prepared with free and full consultation with the representatives of the people most concerned. Schemes prepared in the Secretariat, ignoring this all important factor, have little chance of attaining success. There will have to be a Government which will be able to mobilise the masses and ensure their support. No large-scale improvement is possible if this fundamental condition is not fulfilled.

